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THE

Alienist and Neurologist

A QUARTERLY JOURNAL

—OF—

SCIENTIFIC, CLINICAL AND FORENSIC

Psychiatry and Neurology.

Intended especially to subserve the wants of the General Practitioner of Medicine.

"Quantam ego quidem video motus morbosi fere omnes a motibus in systemate nervorum it pendent, ut morbi fere omnes quodammodo Nervosi dici queant."—*Cullen's Nosology: Book II., p.* 181—*Edinburgh Ed.* 1780.

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Alienist and Neurologist.

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ORIGINAL CONTRIBUTIONS.

Pachymeningitis Interna Hemorrhagica, with Report of Eight Cases.

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REGARDING the nature of the affection variously described as *Pachymeningitis Interna Hemorrhagica*, *Hæmatoma Duræ Matris*, *Subdural Hæmatoma*, *Arachnoid Hemorrhage*, etc., the older anatomists and pathologists entertained most widely varying and even diametrically opposite opinions, and appear to have transmitted with interest these differences and contentions to their successors of the present time.

Probably the greater number of living pathologists, following Durand-Fardel, Heschl and Virchow, insist upon the inflammatory nature of the disease, the initial stage in the morbid process being, they assert a chronic inflammation of the inner layers of the dura, attended by the exudation of fibrino-plastic material, which becomes the basis of the characteristic false membrane.

On the other hand, the majority of those who have recently written upon the subject in England (Bevan

Lewis,[1] Clouston,[2] Wiglesworth[3]), and America (Dercum,[4] Hoyt,[5] Whittaker[6]), subscribe to the opinion, advocated early in the present century by Abercrombie, Andral, Houssard and others, and reaffirmed and ably defended by Huguenin[7] in 1876, that simple hemorrhage into the subdural space is in every instance the initial lesion. A long and convincing array of facts have been adduced in support of this theory. It has been shown, and it is not now denied by anyone, that effusion of blood beneath the dura, with subsequent organization of the resulting clot, does in certain cases occur; and that its developmental course differs in no respect from that noted in cases of alleged inflammatory origin. As a result of experimental research upon animals, it is stated that irritation of the dura never produces a hemorrhage, but only a purulent inflammation. Sperling[8] has reproduced the anatomical lesion of *pachymeningitis interna hemorrhagica* in lower animals by injections of blood into the subdural space. He finds furthermore, as evidencing the necessary part played by the fibrinous clot, and showing the inadequacy of the slight dural irritation resulting from such introduction of fluid, that the injection of *defibrinated* blood is not followed by the formation of a false membrane. These statements find quite recent confirmation in the report by Goodall[9] of the accidental production, in course of experiments upon the lower animals requiring incision of the dura and application of irritants to the cerebral cortex, of a hemorrhagic false membrane as a result of effusion of blood from a wounded dural vessel. It is claimed by the advocates of the hemorrhagic theory that inflammatory changes in the dura are slight,

1. Text-Book of "Mental Diseases," 1890.
2. "Mental Diseases," edition of 1884.
3. *Journal of Mental Science*, Jan., 1888, and article in "Dictionary of Psychological Medicine," 1892.
4. Report of State Hospital, Norristown, Penn.
5. *Medical Record*, April 30th, 1892.
6. Article "Meningitis" in "Reference Hand-Book," Vol. IV.
7. "Ziemssen's Handbuch der Pathologie und Therapie," Leipzig, 1876.
8. "Reference Hand-Book," quoted by Whittaker, *loc. cit.*
9. *Journal of Mental Science*, July, 1892.

or, in recent cases, entirely wanting; that when present, the inflammation is secondary to the irritation caused by the extravasation, the changes being compared by Wiglesworth to those occurring in the walls of blood-vessels following the formation of a thrombus.

Eliminating minor differences, the two schools are virtually agreed as to the structure of the resulting pseudo-membrane and the subsequent course of the affection. The blood clot or fibrinous exudate, as the case may be, becomes partially organized by the conversion of its leucocytes into spindle-shaped connective tissue cells, and the development of large but weak-walled capillaries; rupture of these newly-formed vessels accounting for the, in many cases, repeated hemorrhage.

Within the past eighteen months, among ninety-two autopsies upon insane patients at the Alabama Insane Hospital, this condition has been met with eight times. As these cases are collectively of some interest, and illustrate not inaptly some of the varying phases of this singular malady, a short account of each is given, as a small contribution towards the elucidation of the problem above indicated.

Case I.—White female, aged 36. Died of chronic pulmonary tuberculosis, with a complicating chronic nephritis. Had suffered from melancholia with persecutory and religious delusions for eleven years, accompanied during the last several of these years by gradually advancing dementia. Was confined to bed for two months before death, and during this time was extremely dull and confused. Urine contained albumin and casts, and was diminished in quantity. No heart lesion.

The autopsy shows tubercular disease of the lungs, pleuræ, bronchial and mesentric lymph nodes; tubercular ulcers in small intestine; a parenchymatous nephritis. In the aorta are seen, scattered sparingly throughout its entire length, pale yellow atheromatous patches. The brain is atrophied, the convolutional shrinking being especially noticed in frontal and motor regions. Weight of right hemisphere $17\frac{1}{8}$; of left $18\frac{1}{8}$; of cerebellum, pons, and medulla $5\frac{3}{4}$ ozs.; together 41 ozs. For near a quarter

inch, at posterior edge of the pons, the pyramidal tracts are superficial, being destitute of the normal covering of transverse fibers. The pia is, over the entire convexity, thickened, very tough, very œdematous, and shows irregular areas of opalescence. The dura is seemingly normal. Covering its inner surface is, in each parietal region, an exceedingly thin, pale yellow, friable, false membrane, dotted here and there with small hemorrhagic spots. This membrane is of scarcely more than gelatinous consistency, but can with care be raised in sheets of some size. Microscopic examination shows a normal dura. The false membrane is almost structureless; there are shreds of fibrin, leucocytes, a few spindle-shaped cells, a few brownish pigment masses, and some collections of red blood cells. There is slight thickening of the intima of many of the vessels of the pia.

Case II.—Negro woman, twenty-six years of age, died of *tuberculosis pulmonum*. At the time of puberty had an attack of acute dementia, terminating in three weeks in entire recovery. Three years before death symptoms of tubercular disease of the lungs were first seen, and almost at the same time an acute melancholia developed, attended by numerous and rapidly systematized religious delusions, the emotional disturbance eventually giving place to dementia. Casts and albumin were absent from the urine until a few weeks before death, when both were detected. There was no heart lesion.

At the necropsy tubercular disease of lungs, intestinal tract and lymph glands is found, together with a parenchymatous nephritis of mild grade. There are a few small scattered atheromatous patches in aorta and its larger branches. Upon the inner surface of the dura, both sides, but thicker on the left, is a soft, straw yellow membrane, exhibiting brownish discolorations in places, but no distinct hemorrhagic foci. The membrane has no organic connection with the dura, the inner surface of which is smooth and apparently unaffected. Upon the pia, in right parietal region, is a circumscribed area of reddish-brown staining, unaffected by washing, and visible after pia has been removed and floated in water. The pia is thickened and shows some cloudiness and œdema. The brain is atrophied; the sulci in anterior lobe gape widely and the ventricles are dilated. Weight of right hemisphere 17¼, of left 17½, of cerebellum, pons and

medulla, 5 ozs.; total 39¾ ozs. The microscopic appearance is that of Case I., minus the aggregations of red blood cells.

In these two cases the severe bodily disease favors the occurrence of the hæmatoma at an earlier age than is usual. There is commencing arterio-sclerosis in each case.

Wiglesworth[10] comments upon the frequency with which tuberculosis is found as a complication.

Case III.—Male, white, æt. 73. Died of a general marasmus, the most important factors in its production being senility, chronic renal disease, and a large eroding ulcer of the face. Patient has been very intemperate for years, and had used tobacco to excess. Following several years of gradually progressing impairment of intelligence, an attack of maniacal excitement occurred. This quickly gave place to profound dementia, which persisted during the two years which elapsed before death. Towards the close utter fatuity and somnolence were noted. Urine contained casts and albumin.

Autopsy.—"Brown atrophy" of heart. Weight 6¼ ozs. Atrophy and softening of ribs and other bones. Cirrhotic liver and kidneys. A general *endarteritis chronica.* The dura showed no trace of inflammatory action. Lying beneath it, and covering the convexity of right hemisphere is a thin, bright red sheet of coagulated blood, too friable to admit of handling; no false membrane. On left side no trace of either false membrane or hemorrhage is discoverable. In the meshes of the pia, on each side, are several dark red ecchymotic spots. There is thickening, opalescence and œdema of the pia, and all of its larger blood-vessels are atheromatous. The brain weighs 42¼ ozs., and is much atrophied.

Case IV.—White man, aged 71, died of senility and renal disease, having been greatly demented for five years previous. No symptoms of heart lesion. Urine contained casts and albumin.

Post-mortem examination.—Small circumscribed area of pneumonic consolidation in one lung; contracted kidney,

10. *Loc. cit.*

with well-marked disease of renal blood-vessels; a diffuse endarteritis. Weight of heart 6⅛ ozs.

The dura is seemingly normal; its inner surface is smooth and glistening, and in no way adherent to the thin, brownish yellow, firm neo-membrane, which underlies its parietal portion on each side. The pia is very tough, opaque and œdematous. Its larger vessels, as those of the circle of Willis and elsewhere, are atheromatous. The cerebral convolutions are shrunken, the sulci gape widely, the ventricles are dilated and their endothelial lining is granular. Weight of brain 42½ ozs. The microscope shows a normal dura. The false membrane lying against its inner face is composed of numerous very thin laminæ, with lacuna-like spaces, having brownish, finely granular contents. There are many very long spindle-cells, and some leucocytes, but newly-formed blood-vessels are searched for in vain.

Case V.—White female, 76 years of age. Gradually advancing senility with much mental impairment and emotional weakness was noticed during several years; then a period of violent maniacal excitement supervened, continued for three weeks, terminated in coma, and this two days after, in death. She was greatly emaciated, had disease of the kidneys, a chronic cough, and symptoms of imperfect and disordered heart action. During the maniacal attack the urine was diminished in quantity, was high colored, sp. gr 1020—30, contained much albumin and numerous casts.

Autopsy.—Small pneumonic spot in one lung; vesicular emphysema, both lungs; extreme fatty infiltration of liver; diffuse nephritis, with disease of blood-vessels well marked. Heart weighs 11¼ ozs. There are vegetations upon both aortic and mitral valves and some patches of endocardial thickening. The entire arterial system shows atheromatous disease

Dura apparently normal. Lining its inner surface, but possessing no organic connection therewith, is, in right parietal region, a firm, thin, pale yellow false membrane, which can be removed in large sheets. Covering the right lateral aspect of the falx major is a thin, bright red, friable, evidently recent blood coagulum, one by three inches in surface extent. The membrane over the vertex and this recent blood clot are not discoverably connected, an uncovered space of a half-inch in width

intervening. The left half of the dura, as well as left surface of the falx, is unaffected. The pia is opaque, tough, and contains much water in its meshes; is in motor area one-half to three-fourth of an inch in thickness; adheres to convolutions here and there. All blood-vessels atheromatous. The brain is greatly atrophied; weight 35½ ozs.

CASE VI.—Negro man, aged 41. Six months before death he had an attack of acute mania, and was sent to the insane hospital. He improved rapidly, and became able to do manual labor. It was noticed one day that he had grown foolish and dull, and that he walked with some difficulty. Examination discovered a left lateral paresis. He shuffled in walking, and dragged his left foot; upper extremity and facial muscles affected to a lesser degree. He lived for three months in a state of deep dementia, and finally died in a comatose condition.

Autopsy.—Underlying the dura, left side, is a thin, tolerably firm, pale yellow, false membrane, covering entire convexity. On the right side is a false membrane; varying in thickness from one-sixteenth to one-half inch, consisting of numerous laminæ, some pale yellow, firm; others brown, others dark red. The layer next the pia is very soft, friable, bright red—a recent effusion of blood. On this side the false membrane and the dura are more intimately connected; there are sundry points of adhesions (blood-vessels passing between the two?) though they are readily separable. The pia is tough, thickened, opaque—noticeably more so on right side. There are a few small pale atheromatous patches in the vessels of the circle of Willis. The brain is atrophic; weight 36½ ozs. The heart weighs 10¼ ozs.; shows no lesion. There are scattered atheromatous patches in the aorta. Other organs practically normal.

The membrane on the left side is found to consist of fibrin shreds, spindle-cells, leucocytes, a few small capillaries, masses of brownish pigment. No evidence of inflammation in the dura. On right side the dura is thickened, and shows some round cell infiltration toward its inner surface; the neo-membrane is closely adherent, and in one section direct passage of a blood-vessel from the dura into the membrane is seen; there are many vessels of new formation; there are many leucocytes, red blood cells, fibrin masses and shreds, patches of brown pigment, etc.

This is the only case of the eight in which the clinical symptoms were at all characteristic; and the only case in which subdural hemorrhage was even suspected during life.

Case VII.—Negro woman, æt. 50. Was very intemperate for many years. Developed a chronic kindey disorder; then a gradual deterioration of mental power was noticed, continuing during some three years; then an attack of violent acute mania, terminating in death within ten weeks. No heart lesion. Albumin and casts in urine.

Autopsy.—Diffuse nephritis, with disease of blood-vessels. A widely extended *endarteritis chronica.* Dura normal. Pia is opalescent and thickened, and there is atheromatous disease visible in all of its larger arteries. In the subarachnoid space, over the right parietal lobe, is an extravasation of blood—not an ecchymotic staining, but a distinct and evidently recent hemorrhage, one by two inches in extent of surface. There is extreme atrophy of the brain; weight $32\frac{3}{8}$ ozs.

This case is of especial interest as indicating the vessels of the pia as the source of the hemorrhage, and lending probability to the theory that the *pial* and not the dural vessels, nor the vessels of the false membrane, are oftenest at fault.

Case VIII.—Man, white, age 42. A case of paretic dementia, running its course in six years. Was confined to bed, helpless and utterly demented, for several months before death. No heart lesion; casts and albumin in urine.

Autopsy.—Scattered tubercular nodules in both lungs. Pneumonic spot in lower lobe of left lung. Heart $9\frac{1}{2}$ ozs. Vegetations on valves, and patches of endocardial thickening. Atheromatous areas in aorta, and in its larger branches. A mild diffuse nephritis. Cranium asymmetrical. Dura normal. Over convexity of left side, and on left aspect of falx major, a thin, yellowish, blood-stained false membrane lines the inner surface of the dura. Right side free. Pia injected, thickened, very tough, cloudy; adheres closely to convolutions

throughout. Brain shows great atrophy; is very firm; ependyma is granular and thickened. Weight 38¾ ozs. The cord is normal in microscopic appearance.

The false membrane is shown by the microscope to be in all respects similar in structure to those previously described. The pigment masses are large and numerous; there are many blood-vessels of new formation, interlacing bands of delicate fibrous tissue; leucocytes in various stages of transformation; long spindle cells, etc. The membrane is closely adherent to the dura, and some of the blood-vessels unite the two. There is, however, little evidence of dural inflammation.

Of these eight cases, one is an instance of simple recent subdural hemorrhage; four exhibit recent effusion of blood, plus a false membrane of earlier formation; in two a pseudo-membrane without evidence of recent hemorrhage exists; and in one the extravasation of blood occurs in the meshes of the pia, or "subarachnoid space." There is well-marked atrophy of the brain in every case; there is some evidence of disease of the pia in every case; there is a more or less pronounced *endarteritis chronica diffusa* in every case; indication of inflammatory action in the dura is discoverable in one case only, and here a good and sufficient reason therefor is found in the irritation of a long-standing and very bulky pseudo-membrane. No anatomical appearance not readily explicable upon the hypothesis of a primary hemorrhage is discovered in any one of the eight cases; and no necessity for invoking the aid of an inflammatory process, least of all an inflammatory process in a structure having apparently as little to do with the case as the dura mater, is anywhere discoverable.

As the lesion most especially meriting attention, the arterial disease, present as mentioned above, in everyone of the cases reported, must present itself to everyone who reviews in detail the pathological changes enumerated. This varies from slight and localized thickenings of the intima of the smaller arteries of pia, brain and

internal organs, with scattered patches visible to naked eye in the aorta and larger vessels (in Cases 1, 2 and 8), to the high degree of atheromatous disease, with extensive and extreme thickenings and degenerative change seen in the other five cases. That there is arterial disease in every case of non-traumatic hemorrhage beneath the dura, I am not prepared to assert; but I venture to suggest that careful examination would discover this lesion in a larger proportion of such cases than has heretofore been reported.

The arterial disease is undoubtedly to some extent responsible for the cerebral atrophy so frequently present—shown in every one of the cases above—or at least the two may be taken as expressions of the same morbid process.

In the light of the reported results of investigation, the hemorrhagic theory would seem to offer the most rational and probable explanation of the clinical symptoms and *post-mortem* appearances noted in "pachymeningitis interna hemorrhagica." The pathological states favoring the occurrence of hemorrhage—arterial disease, congestive and other circulating disorders, with possible "neuro angio paralysis" (Dercum), etc., are the same, whatever the location of the extravasation may be—whether subcutaneous (as seen in the ecchymotic spots, common upon the fore-arms and hands of old persons having diseased arteries), in the tissues of the ear (hæmatoma auris, or the "insane ear"), in the tissue of the brain or into its ventricles, in the vessels of the pia or into the subdural space. Occurring in the latter situation the blood (derived from a pial vessel) forms a thin membrane like coagulum beneath the dura; causing irritation in adjacent structures it establishes organic connection with them, notably the dura, but also with the pia in certain cases (Hoyt); undergoes a certain degree of organization, its newly-formed vessels showing, however, a readiness to rupture, which accounts for a portion of the subsequent effusions of blood, the remainder being due to a repeti-

tion of the original accident—rupture of a small vessel in the pia.

In brief, "meningeal hemorrhage" covers the subject; and if the changes in the pia and its vessels be regarded as of a chronic inflammatory character, "leptomeningitis chronica hemorrhagica" is a more appropriate term than that commonly employed.

The disease is not rare among the insane, near ten per cent. of whom, dying in hospital, instance the lesion.

Remarkable Case of Somnambulism.

By William W. Ireland, M. D.,

Preston Lodge, Prestonpans, East Lothian, Scotland.

AT the Siege of Delhi, in 1857, I served as surgeon with two troops of horse artillery. Owing to the sudden outbreak of the mutiny, I was unprovided with a tent of my own, and was indebted for shelter to the kindness of Captain Ernle K. Money. The campaign had been trying; the enemy knowing that we did not like the sun, generally kept us alert at the hottest part of the day, and there were frequent alarms at night. Sometimes shells thrown from the town used to alight in the camp. Owing to the smallness of our army, the defection of native troops and the distrust which we had of those who remained, it was a time of great anxiety and watchfulness. On going to sleep, I never took off anything save my jacket, keeping on the shirt and linen trousers, which were my only other clothes. One night about the middle of July, we went to sleep. It was a large four-poled tent, dimly lighted by a single lamp. Besides Captain Money and myself, there were two subalterns, Lieutenant Mac and Lieutenant C. This last was a good-looking young fellow, somewhat slightly made. Though no older than 23 years, his hair was quite gray. He was very pious, and even addicted to lecturing his brother officers, and the men in his troop on their religious duties. He was orthodox according to the views of the Episcopal Church, and staid and proper in his conduct, though occasionally somewhat petulant. Owing to his delicate health, he had not been able to pass through the rough exercises of riding school, though he seemed to be able to ride well enough for practical purposes. It was said that he was subject to peculiar nervous attacks,

and that when at Dumdum, he had several times burst into fits of uncontrollable laughter, so that it began to be a serious question when he would stop. Those affections were, however, unknown to me at that time. I was awakened by this young man rising and going out of the tent. Presently he returned, when I saw him go up to the cot of Lieutenant M., and heard him say, "Come along, old fellow. Here are Johnson and Chesney at the door wanting four guns. Lieutenant Mac. and I both got up, when Captain Money beckoned me to come to him. He said to me, "I understand that C. takes fits of somnambulism, and I think this must be one of them." This was quite new to me, as I never heard of C.'s peculiarity before. I went out of the tent, but could see neither Johnson nor Chesney. Johnson was an aid-de-camp, afterwards adjutant-general of the Indian army, and Chesney was then a lieutenant of engineers, now well known for his writings and distinguished military and civil career. I went in and reported to Captain Money that there was no one at the door of the tent, and said the same thing to C. The latter paid no attention to what I said, but went on getting himself dressed. His eyes were opened; but he had a nervous abstracted look, different from his usual manner, which was pleasant and gentlemanly. Captain Money said to me: "It is your duty to look after him now." As I had never had the charge of a case of sleep-walking before, I thought it best to adopt the expectant treatment. I told his native servant, who seemed to understand his master's condition, not to give him his sword or pistols, but let him go on with his dressing. The man, however, contrary to my expectation, gave his master his sword, belt and pistols. Lieutenant C. then said, "Come along" to Lieutenant Mac and myself, and hurried out of the tent. Captain Money said to me: "You should not have let him leave the tent. Now that he is out he will make disturbance in the camp." I said I had no idea his bearer would give him his arms, to

which Captain Money replied: "He is under your care: you had better follow him and see he does no mischief."

I asked Lieutenant Mac to come with me. This he at first refused to do, not that he was afraid, for fear was not his weak point; but, as I opined, because he was not on friendly terms with C., and was not particularly anxious to help him. "It is scarcely to be expected," I observed, "that I should go alone to arrest a man with a sword and two loaded pistols."

After a little further expostulation Mac agreed to accompany me, when we ran after C., who was walking to the park to call out the artillerymen. I took him round the waist and threw him down; he made a slight resistance. We secured his arms while he lay on the ground. I then took hold of him under the shoulders and asked Mac to lift him by the legs, on which C. commenced to kick with his spurs, which enraged the choleric Highlander so much that he began to pummel him. On my expostulation, however, C. was without further ado carried back to the tent and placed on his bed. He looked around him and said, "What is this? What is this?" and almost immediately dropped into a deep sleep, which continued till a late hour in the morning. On awaking we found that he had not the slightest memory of what had taken place during the night.

He told me that he had such fits of somnambulism now and then, but his old bearer knew how to manage him, and he only regretted that the thing should have been witnessed by those who were not friendly to him. The young officer evidently thought it a matter of no moment, and considered it an unfriendly action when Captain Money reported the affair to the general in command of the field force. For this I think Captain Money could not be blamed. Had Lieutenant C. got down to the tents where the artillerymen were, he would apparently have ordered out four guns, and unless this proceeding had been checked, it would have been diffi-

cult to guess where he would have taken them. The incident would at any rate have produced some confusion in the camp, and might have been the cause of serious mischief. Nevertheless, everyone seemed anxious to let the poor young officer down lightly. I was not asked to give a report; but a written one was sent by the camp surgeon to the effect that Lieutenant C. was not well fitted to serve in the horse artillery. Whether this report was read through at the headquarter tent is doubtful: few could read without intense application, the almost undecipherable handwriting of that able and experienced medical officer. At any rate Lieutenant C. still continued to serve with the troop, though he was kept on the sick list for some days after. He went upon a careful and unstimulating diet, and there was no return of the sleep-walking during the next month at least. One night I heard him talking, when I asked him how he did. Next day he reproached me with awakening him from his sleep to ask him how he felt. He was evidently unaware that he had been talking in his sleep.

On August the 25th, I was dangerously wounded at the battle of Nujjufghar. Soon after Lieutenant C. came to see me. He said that he was well, and recalled with justifiable pride that he had gone through all the fatigues of the march and the trials of the battle.

As I thought that it might injure his prospects, I never published the details of this case till the present moment. As thirty-five years have now passed it does not seem likely that any susceptibilities will be hurt.

Note on the Nervous Disturbances After Removal and Atrophy of Testicles.*

By C. H. Hughes, M. D., St. Louis,

President and Professor of Neurology and Psychiatry, Barnes Medical College.

M. WEISS has reported in *Wein. Med. Press*, 1890, the case of a man 54 years of age, in whom a series of grave nervous symptoms, occurred shortly after the removal of both testicles for tubercular disease. This condition manifested itself by great mental and physical restlessness, agitation, palpitation of the heart, gastric crises, profuse perspiration, melancholia, snycope, etc. The author noted the similarity of these symptoms to those observed in women at the menopause, or after the removal of the ovaries.

In 1880, there came to me a patient from an adjoining State who, after the removal of one testicle, had, in addition to persistent *neuralgia testis*, symptoms much like those described by Weiss, the melancholia being associated with hypochondriasis. After a course of treatment extending over one year, which included local galvanism for the relief of the neuralgia, the patient's nervous symptoms and pain disappeared. He improved much in general tone, but persisted in believing that his scrotum was too long, and went East and had it shortened, which operation seemed to satisfy him, and the patient has remained well ever since, and is virile.

A patient from a neighboring State, of good physique, good mental capacity and intelligence (a professional man from Iowa), after atrophy of both testicles without scrotal pain, one testicle being the size of a lima bean, the other not larger than a small peach stone, became neurasthenic and sexually hypochondriacal (the latter a

* Read by title before the Mississippi Valley Medical Society, at Cincinnati, September, 1892.

reasonable fear, however), somewhat sleepless and mentally depressed, but has improved under treatment in all except his doubts as to his virility, which are well grounded, though he has never tested his sexual powers.

Another patient, after exsection of a tuberculous right testicle performed in Germany (a fistulous opening having been left by the surgeon, which we did not deem it prudent to disturb, but kept open and injected with bichloride solution, as it occupied and diverted the patient's mind), came under treatment for profound melancholia with associated insomnia, hypochondriasis and suicidal impulses, December 22nd, 1891, and remained under treatment, with marked improvement, until January 7th, 1892, when he went home. Returning on the 14th of January, he continued to improve, with some exacerbations of depression, owing to the increasing complications of his neglected business, when being advised by intermeddling friends to consult a surgeon of this city, he was taken out of our hands by the surgeon whom he consulted against our protest (as it was a surgical case, he said), placed in a hospital, and died the day following the operation, of nervous shock probably. We did not see him.

A number of similar cases might be cited from our own experience had we the time to record them, in which marked nervous disturbance has followed removal of one or both testicles and atrophy, the nervous derangement being either sequent or concomitant to the condition calling for removal and to the atrophy, the cerebro-spinal system appearing, especially in the trophic centers of the gray anterior cornua of the cord, to lose some stimulating influence essential to its healthy tone and perfect integrity, in some organizations, because of the missed peripheral neural impressions through the lost or degenerate genital apparatus (just as the peripheral motor system suffers atrophy from central disease of a degenerative kind) as well as what may be lost to the organism through failure of seminal resorption. The same or similar results seem

to have followed as sequence of a number of recently reported and carefully observed cases after the performance of the operation of oöphorectomy.

We have observed the same fact in acquired aspermatism. Weiss ascribes these disturbances to the absence of the normal secretions from these glands, which from the experiments of Brown-Séquard seem to have a marked tonic effect upon the nerves. The removal of this stimulant, he believes, results in a general nervous depression, as in cases where other habitual stimulants are suddenly suspended.

This is doubtless to a certain extent true, but it is not the whole truth. The causes that make the operation necessary, that lead to the degenerative changes that call for surgical therapy, and the psychical after-effect of the surgical procedure must also be considered. Such of these cases as reach the neurologist before falling into the hands of the surgeon, generally show marked neuropathic instability, and not infrequently it is one of the hereditary factors of the case. The question as to cause and sequence, therefore, has yet to be finally settled by further clinical facts with the testimony now largely in favor of constitutional neuropathic decadence, and hereditary neural instability as the chief factors in causation.

A Contribution on Legal Medicine—Homicidal Mania.*

By Dr. Camuset,

Director of the Asylum at Bonneval.

HOMICIDE unfortunately is not a rare thing in insanity, and when, if homicidal mania exists, it is not always as a special morbid entity. The insane in certain clinical circumstances are impelled to murder. We have succeeded to define and limit these circumstances. It has also been recognized that the homicidal maniac, according to the species of mental malady with which he is attacked, proceeds in a peculiar manner. Thus in certain cases we can, upon the simple, circumstanciated narration of a homicide committed by a maniac, foresee the special mental malady which will be shown to exist with him after a direct examination.

To pretend that only those maniacs attacked with certain psychoses are susceptible of becoming homicides would overreach reality. It has been justly remarked that every maniac may, at a given moment become dangerous. But in these exceptional cases the insane have sometimes not even consciousness of the gravity of the consequences of their act.

Many persons have heard the history of that aged dement who, though harmless up to the time, brained his nearest neighbor in the dormitory because this one kept him (the old dement) from sleeping, by his too loud snoring. There are many similar cases, in which chronic lunatics act in destroying life, really under the influence of a delirious conception but without realizing the bearing of their act.

* Translated by P. R. Thombs, M. D., Superintendent State Insane Asylum, Pueblo, Colo.

All these cases constitute in reality but accidents, and they do not hinder that this principle be recognized as legitimate, whose importance in legal medicine is considerable, namely, that tendency to homicide is not a common, unimportant symptom which can be observed in all kinds of mental affection, but on the contrary, that this tendency is a *symptome propre* to certain psychoses, and does not manifest itself but in clinical, well-determined circumstances.

What are now the pathological circumstances in which homicide is observed? To answer this question in a complete manner, it would be necessary to expose methodically all the semeiology of homicide in mania, this would constitute a very interesting but very complex study, which I do not pretend to undertake. It may be sufficient to indicate briefly the diverse psychopathic states in which tendency to homicide figures as an element.

It is in mania of persecution that we more often meet cases of homicide. Under this name two different morbid entities are designated in France, viz., the mania of persecution of Lasegue (chronic mania, systematized psychosis with progressive evolution), and the mania of persecution of Falret, which is not accompanied with hallucinations.

We shall speak at first of the mania of persecution of Lasegue. This nosologic entity is one of the best characterized from a symptomatic point of view, in mental medicine. It comprises three periods. The second period shows itself by systematized ideas of persecution, and by hallucinations of hearing and of cénesthésie. In the third period, which is sometimes wanting, ideas of grandeur add themselves to the preceding troubles.

It is during the course of the second and third periods, especially during the second, that homicide may be observed. The patient has found the principal author of the torments he endures, and of the insults and wrongs with which he is overwhelmed. He knows his enemy, and gets rid of him by killing him. His determination is guided by logic; besides, his mental faculties are pre-

served, and except for his delirious ideas, he reasons soundly. It sometimes happens that the murderous act is the first delirious manifestation which attracts attention upon the subject. Up to then he was not known to be a maniac. He dissimulated his condition and was pursuing his daily occupations. But in studying him one recognizes quickly that mania is already of ancient date in him; his relatives and friends perceive for a long time his preoccupations and his strange ideas. Here it must be noticed that with the mania of persecution of Lasegue the homicidal tendencies do not show themselves in the beginning of the affection. They appear slowly, like logical deductions of delirious conceptions pondered during a long time.

There are some maniacs with delusions of persecution who have stronger propensities to murder than others. Perhaps this is the effect of their more naturally violent dispositions. Whilst a great number of these patients are satisfied with insulting, threatening or striking their imaginary enemies, others have only the idea of killing them. I have in my ward a patient of this kind; he is now aged and a little demented; his ideas of persecution have lost much of their ancient intensity. This patient has formerly killed seven persons whilst under the influence of his delirium of persecuton. Above all, he hated clergymen, and accused them of persecuting him. Even to-day, when one recalls his mania to him or speaks of priests the delirium, vague enough and quite blotted out, comes back for a moment clear and violent, his face expresses wrath, and he utters threatenings of death.

To sum up, in manias of persecution the homicide is relatively frequent; it never manifests itself in the beginning of the affection, but in a quite advanced period, and when mania is clearly systematized. In a word it is the logical consequence of delirious conceptions.

Many of these persecutes have killed under the influence

of their malady some prominent person, and have thus acquired sad celebrity. Many regicides were but patients of this kind; Raveillac was very likely one of them. This is at least what seems to result from documents lately gathered and commented upon by a learned physician.

In regard to the persecutes of the Falret type, who have no hallucinations, they are intellectually degenerated; this does not imply that they are forcibly cretins or imbeciles; it means simply that they have lost their mental equilibrium. We meet homicides also among them, but less often than among the Lasegue types.

These subjects are naturally envious, suspicious and proud. They reach mania progressively, and so as to say, in consequence of the excessive exaggeration of the defects of their character. At a given moment they interpret all that happened to them in a sense of persecution. Mania is then established. From persecuted they begin soon to become persecutors themselves. They select the person who, according to themselves, has done them the greatest injury or the most evil; this selection is often guided by some real incident whose bearings they misconstrue. Of such a person they make the object of their hatred, leaving him neither peace nor rest. Patients, who reach the point of having recourse to homicide are before all progressives. They denounce, insult and calumniate; they invent false accusations very cleverly combined or they sometimes skillfully direct those kinds of enterprises commonly known as blackmailing. A remarkable type of this kind of maniac is furnished by the famous Sandon, who under the Empire, succeeded in interesting in his fate almost the universal press, and whom they still mention to-day as a victim of the law of 1838.

As I have already said, these persecuting maniacs go sometimes so far as to murder. It is necessary, however, to note that with them as well as with the maniacs of the Lasegue type, the tendency to homicide appears only in the advanced phases of the affection.

The preceding patients, the persecutes, do not commit murder under a sudden impulse, but under the influence of a reasoning logic. With other homicidal maniacs the impulse exists in the sense, which is habitually given to this term, that is to say, that with them the tendency to kill is not premeditated, but that the idea of taking life imposes itself to their mind either under the influence of passion or spontaneously without any other reason but a special pathological condition of the functioning of the brain. It may happen that impulse and act may be unconscious, and this last accomplished, the perpetrator may not even keep the least remembrance of it. Such are, among others, the murders committed by certain epileptics.

After the persecutes, very likely the *epileptics*, the *imbeciles* and the *half-idiots* are those who furnish the greatest number of maniacal homicides.

Epileptics become homicidal in two different conditions. At first they may have delirious accesses of the maniacal form, and of an extreme intensity, during the course of which they are impelled to murder. These accesses burst forth almost suddenly, but they are transitory and soon pass.

An essential character is that they are unconscious. This is not the place to investigate the relations which exist between these accesses of furious folly (epileptics' fury) and the epileptic neurose itself. We should confine ourselves strictly within the domain of the clinic, and we will not undertake any problem of a speculative order, our aim being only to sketch a short medico-legal study. Whether these transitory maniacal accesses of fury are attacks of epilepsy or not, whether they are simply motor or purely intellectual, it matters little in practice. What is certain is that they are observed either before or more frequently after the convulsive attack, and sometimes within their intervals.

Now during these accesses of maniacal fury, epileptics, only to often, commit murder, and then they kill

unconsciously, without any reason, the first person within their reach.

Sometimes they accomplish their murder in cold blood, without noise; and sometimes (this is the most frequent) they proceed with such fury and persistence that they still continue to strike though their victim has already expired. Some epileptics have thus successively killed two, three or even four persons, whom they did not know. The bodies of such victims, covered with gore and wounds and disfigured, have something characteristic about them. At the sight of such mutilated bodies, Legrand Du Saulle said: "Epilepsy has marked them with its own seal." These epileptics once calmed, and returned to themselves, never preserve the remembrance of the deeds they have just committed. In a few words, here is the relation of a typical observation of homicidal mania with an epileptic.

N. N., 40 years old, entered the asylum of Cadillac in 1886, with the diagnosis: "Mania," without any other information upon his antecedents.

On his entering the patient seems to have reached the final period of an access of mania; his ideas were confused, no delirious conceptions predominating. He recovers completely and is soon calm and rational. He is sent to work, that is, he is employed at farm work, with other quiet patients. Sometime after, whilst at work, he shows himself unusually excited and angry, he threatens his fellow patients. They take him back into the ward; arrived in the yard, he becomes entirely furious, and drawing an old knife from his pocket, which he must have found in the garden, he, howling, precipitates himself upon the patient nearest to him. He strikes him with such violence that though the knife is dull, it penetrates the heart: death is instantaneous. This homicide accomplished, he turns his fury against other patients, who fly from him, and wounds another one of them. At last, the waiters succeed in disarming and mastering him, but not without injury to one of them, who was grievously wounded during the fight.

Isolated in his cell N. N. calms rapidly. The day after the access of his fury, he does not retain even the least remembrance of it. He names similar accesses, but without such horrible consequences, which took place at irregular intervals; four were observed during six months. At last, one day N. N. had a violent attack of convulsive epilepsy; since this the convulsive attacks renewed themselves from time to time, and the maniacal accesses occurred less and less frequently.

In the sequence of homicides accomplished during accesses of epileptic manic, it may also be opportune to relate those committed by the so-called *comitial* epileptics, committed rather under the influence of passion, than under the mania called epileptic.

The habitual mental state of epileptics is well-known. We know at first that in general with these patients the intellectual faculties weaken progressively, and that in time a true dementia, epileptic dementia succeeds in establishing itself. But moreover, the character of the so-called *comitial* epileptics modifies itself little by little, progressively under the influence of convulsive attacks, and of vertigoes, which repeat themselves ceaselessly. The patients become irritables, fierce and wicked. This does not hinder, in all circumstances, an affection of great sensitiveness.

Contradiction exasperates them. On account of trifles they exhibit an extreme fierceness; though they afterwards show an exaggerated repentance for it. With them, the act follows the threat immediately; acting and threatening are simultaneous. They are *impulsives*. It is evident that they do not possess sufficient power to counteract their instinctive and passionate tendencies. There exists a real lesion of will.

Now it sometimes happens that their violence carries them as far as homicide. In these cases there exists no properly called lunacy. However, the functioning of the brain is not normal; it is pathologic. In similar circumstances, the physicians called to examine the mental

condition of the accused, often draw conclusions of personal responsibility. For my part, I consider the patient of this kind as being really irresponsible. However, it would be imprudent to formulate a general law in this respect. In practice all the cases which we meet demand a particular study, because they may really bear a great resemblance to one another, but they are very seldom identical one with the other.

This sometimes renders a special examination very delicate. The patient himself may present the two kinds of furious accesses; sometimes he has accesses of epileptical mania, absolutely unconscious, and sometimes he allows himself to be carried away by crises of fury, which are conscious, and which he remembers. I actually observed a patient of this kind, who is rightly considered as one of the most dangerous of the asylum.

C. (Louis), aged 33, epileptic since his seventeenth year, hereditary antecedents almost unknown; he is under treatment at the asylum of Bonneval since eight years.

Before entering C. had been found guilty and condemned several times for assaults and wounding. Everybody in his country feared him, his parents more than others. To-day he presents frequent vertigoes and great convulsive attacks; the latter not so frequent as before on account of the treatment to which he is subjected.

Two or three times a year, in consequence of a series of convulsive attacks, he is suddenly taken with an access of mania, whose duration does not surpass forty hours. He then gives himself over to acts dangerous to his surroundings, especially in the beginning of the access. He breaks the furniture and windows; he fights with the attendants. He has to be put in isolation as quickly as possible. The crisis terminates with a semi-comatose sleep; on awakening the patient remembers nothing.

Besides these accesses, which are unconscious, C. presents many other phases; but these are entirely conscious. This character is always irritable, but more at certain moments than at others, for a trifling motive, and

even with no motive at all. For instance, if a fellow-patient has touched him, or because he thinks the waiter has served him indifferently at table, or because he imagines that one has looked mockingly at him, he becomes furious. These accesses of fury present many degrees, sometimes some of them resemble exactly accesses of unconscious mania. He is very powerful. I have seen him once in the yard of his division breaking a young, but quite large tree, to make a weapon for himself, and throw himself upon his keeper. As soon as his furor is past, he is repentant, and promises never to recommence again; but he maintains that nothing would have happened if he only had been left alone. C. has never committed any homicides, solely because the circumstances have not permitted it.

By all the preceding it may be seen that when a homicide has been committed by a maniac under the influence of epilepsy, there exist special signs, which ordinarily permit to diagnose the mental state of the subject without much difficulty.

The *imbeciles* and the *semi-idiots* are also counted among the homicidal maniacs. These subjects are for the most part brought to murder whilst in the course of one of these delirious accesses, which are ordinarily transitory, to which they are subject. Their case confounds itself then with that of other lunatics with accesses of mania often sudden and transitory, of which we shall treat later on. But it happens also that some non-delirious imbeciles or semi-idiots commit murder. In this circumstance they are carried off by an impulse of the passionate order. Hatred, jealousy, sexual instinct, are the ordinary motives which make them act, because, in consequence of their want of development of the moral sense, and on account of the imperfection of the cerebral functioning, these motives are not sufficiently counterbalanced.

There are some special records which contain numerous examples of non-delirious imbeciles and of idiots,

perpetrators of the most grevious acts, as rape, arson, and even murder. The observations bear often upon children or youths. Here is the history of a semi-idiot who has committed a rape and an attempt to murder. This case is somewhat complex, but it is interesting enough to be reported.

H. Louis, aged 35, entèred into the Bonneval Asylum in 1888, afflicted with semi-idiotism—hereditary antecedents unknown; facial asymetry, pronounced malformation; articulation so defective that one can hardly understand what he wants to say. Besides these physicial signs of degeneracy, there is a very incomplete development of mental faculties. He is unable to answer any but the most simple questions, and cannot count beyond ten, but on the other hand, he is of gay humor; he plays often with his companions; besides, he is very obedient. We have succeeded to make him work on a farm, occupying him with the most simple work. This idiot has lived in freedom up to his thirty-fifth year, and was not considered as dangerous in his native village. But one day meeting a little girl thirteen years of age, in a field, he ravished her, after which he stabbed her three times in the abdomen. Though dangerously wounded the victim recovered. In his trial H. was pronounced irresponsible, and was placed in the asylum. During the three years of his residence here no signs of epileptic nature manifested themselves in him, nor has he given any signs whatsoever of dangerous morbid impulse. The combined impulse, erotic and homicidal, of 1888, is therefore an isolated fact in his life. This is a proof that imbeciles and idiots should be watched, though they seem to be perfectly harmless. Even to-day, when one questions him upon his maniacal assaults, it appears that he has only a confused remembranee of them. Heretofore his memory served him better, and he narrated in a laughing manner, what he had done, but without giving any reasons and without understanding the grievousness of his act.

The rape may be explained as the consequence of an

erotic impulse, but the murderous attempt cannot be explained as easily. This is a case of true sadism, since the victim has been attacked only after being outraged. Therefore it was not the question to overcome her resistance, nor for H. to prevent her denunciation of him. Besides that he did not understand he was committing a crime, his intelligence did not reach so far as to foresee the consequences of his action. One might perhaps bring forth —as some anthropologists do in similar cases—the hypothesis, at least ingenious enough, of atavistic awakening with a degenerated mental state anciently habitual to prehistoric man. Primitive men fought fiercely among themselves for the possession of females. Sexual satisfactions and bloody scenes constituted, consequently, representations intimately united and associated in their psychical constitution. But considerations of this order are foreign to our subject, which must remain absolutely practical, since we treat of legal medicine.

In summing up, imbeciles and idiots can commit homicides outside of all real delirious accesses, and by the only fact of passionate impulse or instincts determined by hatred, jealousy, wrath, sexual satisfaction, etc., and even sometimes occasioned only by the simple desire of imitation. When cases of this nature present themselves the analysis of the circumstances of the murder and the psychological study, and also sometimes the physical study of the subjects on account of the physical stigmata of degeneracy, permits one to specify the mental state as it were at the moment of the perpetration of crime.

It is certain that the legal responsibility of many of these individuals is entirely void. At other times the expert physician dares not to put down such an absolute conclusion. Imbecility in fact, has many degrees, and really, from a man of small intelligence to the type of imbecile, there exists an insensible gradation. The expert physician finds himself consequently brought in certain cases, almost in spite of himself, to admit an extenuating

responsibility. However, nothing seems more in disaccordance with the principles of positive psychology as such a conclusion, since the ideas of extenuating responsibility are based upon the state of defectuosity of a metaphysical entity, of which in our days we can hardly uphold the real existence, the free will. I indicate only this point of philosophical controversy to show, in passing, how delicate and difficult these problems of responsibility are, whether the question is about the insane or about moral subjects. They always try to solve them by means of metaphysical data, and before all they make moral liberty, the free will, the innate idea of right and wrong, good and evil, to intervene.

It is desirable that this ancient metaphysical method should be abandoned once for all, and that the positive method should be observed. In all the so-called questions of moral responsibility, there is but one element that is real, tangible and ponderable ; it is the question of *nuisance*. It is therefore *nuisance* alone that can be studied scientifically. It is especially important to establish its genesis. In combating in fact against the real causes of *nuisance*, that which science has already learned to do in many circumstances, one succeeds to attenuate it, and sometimes to cause it to disappear, this is the real and true aim to attain.

We are now coming to homicide committed in alcoholic mania. Murder is not seldom in alcoholic mania; it has also been observed in other manias through intoxication, in morphine-mania, for instance (though some rare cases only), it appears also that opium smokers in advanced periods of the poisoning, are sometimes subject to accesses of homicidal fury. But we will limit ourselves to trace in a few lines the characters of *alcoholic mania* (homicide in the *folie alcoholique*), which is frequent, and which may serve as a type of psychoses through chronic poisoning.

It is in this form of mania, sometimes called subacute alcoholic mania of Lasegue, that we find especially the

homicide. This psychosis is essentially characterized by terrors, by panophobia, by hallucinations and optical illusions, and by troubles of sensibility in general. I omit the enumeration of physical symptoms. The attack begins quite suddenly, but it is ordinarily preceded by prodromes, which announce it, as insomnia, nightmares (nocturnal hallucinations), tremblings of the extremities, etc. The accesses once established, the patient trembling and terrified, sees disgusting animals, which climb upon him; he sees phantoms, people who threaten him, pursue him, dagger in hand. It may happen, and it happens often, that he does not remain passive, and that he reacts against the phantoms that threaten him. Then he becomes a murderer. He kills to defend himself and to save his life, which he thinks is endangered. The murder in this case is not the result of fury; it is the result of fear or terror; it is in fact, the consequence of an intellectual and sensorial error, or rather, the result of delirium and hallucination.

In the same way suicide, which is not rare, in this form of alcoholism, is not the result of impulse, or of a desire to be done with life, or of destroying one's self, but it is solely the consequence of an error. The patient precipitates himself through the window, which he mistakes for the door, or he throws himself into the river to escape from the fantastic beings which pursue him, in order to extinguish the imaginary flames which surround him.

It is but incidentally that I am led to speak of suicide in alcoholism to show a similarity which presents itself here. Suicide is really the end in certain cases of alcoholism, of the pathologic process, which I mention, but in other moments of alcoholic madness; it has an entirely different genesis. Thus it may result from a true obsession of the necessity of disappearing; it can also effectuate itself under the reign of fury, of remorse, etc. When the access of delirium is over, the remembrance of the accomplished murder persists, but often in a confused manner.

The patient has sometimes an impression as if he had dreamed it. In all cases there is never real unconsciousness as in epileptic mania.

This is the pathologic, cerebral process, which ends with homicide in the alcoholized, in half the cases very likely, but these patients may become murderers according to another mode. In regard to them, we could establish a division analogous to the one indicated a moment ago, in mentioning epileptic homicides.

Under the influence of chronic poisoning through alcohol the mental faculties progressively weaken; the last stage of this weakening is the so-called alcoholic dementia. In the course of this intoxication there are supervening with many patients, but not with all, divers accidents, as fits of insanity, such as have just been described, febrile attacks of delirium tremens, convulsive epileptiform fits, sometimes real epileptic attacks; apoplectic fits, etc. There results from these oft-repeated shocks to the nervous system, as well as from the anatomical lesions of this same system, due also to alcoholic mania, certain morbid modifications of the cerebral functioning. The alcoholized subject, who, before he was intoxicated, was of a gentle and quiet disposition, and possessed a clear and sound judgment, has since become irascible, revengeful, and incoherent in his undertakings. He used to be good and kind, but now he is wicked, mischievous and perverse. On all occasions he is wrathful and violent; discussions with him degenerate quickly to quarrels. Finally, when he has caught a new and fleeting excitation in some recent excess, he is led by anger to commit homicide.

Most of those narrations which fill our daily papers, in which some drunkards have beaten, wounded, or even killed, refer to chronic alcoholics, who have acted under the influence of a blind and irrational ire. A fact interesting enough to be mentioned in legal medicine is that in large cities, especially among the laboring classes, the starting-point of those dramas is very often jealousy; jealousy of

a husband in respect to his wife, jealousy which renews itself at every new excess and is really of a morbid nature, often without any serious foundation.

In a word, it is certain that homicide in alcoholism is in a great number of cases the result not of a true delirium, but of a peculiar pathological condition due to chronic poisoning. You understand without insisting upon it, how it is difficult to agree upon the legal responsibility of individuals belonging to this class. Have they possession of their free will, or have they not? or do they have it only in a restricted measure? Then they discuss upon the intensity of the fit of anger, the immediate cause of the catastrophe. The fit of anger (*insania brevis*), as the defendant of the accused never fails to call it, has it been violent enough, so as to allow that the will has been in fact momentarily annihilated? They weigh also the gravity of the motive which has occasioned the ire. It must not be forgotten that if someone's drunkenness is an attenuating circumstance, it is viewed by others as an aggravating circumstance. In truth, these problems will never be solved in a satisfactory manner; a time will come when they will not be put any more.

The question will not be whether the alcoholic homicide did or did not have liberty of will. It will be sufficient to establish at the first instance that he is a *nuisance* of the first class, and an endeavor will be made to put him out of the possibility of committing any more *nuisance*. The aim will be to render similar cases as rare as possible.

We have just passed in review a certain number of mental maladies, which present as a more or less frequent symptom, the tendency to homicide. In each of them we have tried to establish the psychologic process which had this aim for its tendency; but there exist yet other psychopathic conditions which can, at a given moment, complicate themselves with impulse to homicide. I say, which can complicate themselves, because in these

cases homicide is a complication rather than a symptom of the malady.

Manias may be divided into two great classes; those which before the invasion of the mental affection were normal from a psychological point of view; and those which already presented some irregularities, or some troubles in the physical functioning. The Germans say, lunatics with a healthy brain, and lunatics with an unhealthy brain. In France we say of the latter that they are stained with intellectual degeneracy. In all psychiatric schools, whatsoever may be the divergence of opinions upon certain points, we always find this same fundamental idea, the distinction of lunatics in two great classes.

Without entering into any dogmatic discussion we must admit how well established this motion is, and that the subjects who are affected with intellectual degeneracy do not react under influence of lunacy in the same manner as the others. Irregularity and the unforeseen are the characteristics of most of the mental maladies with which they are afflicted.

It is useless to call to mind that intellectual degeneracy is not a synonym with mental debility. The imbeciles and the mentally weak may well enter into this class of the degenerated, but we find in this class some men with normal and sometimes with superior intelligence. Men of genius are not rare herein, and there are some who say that such men are only found in this class. It is the state of disequilibration of mental faculties that is the criterion of intellectual degeneracy and not imperfection in the whole of their development.

In France we especially attach degeneracy to neuropathic heredity. This is exact, but we may be inclined to make this morbid heredity the unique cause of degeneracy. This is exaggerated. It is against this exaggeration that Cotard has spoken. He has demonstrated that degeneracy is often acquired, and that it may establish itself at the moment of conception, during intrauterine life, during

infancy, and even during adolescence. In reality some hereditaries with a heavy degree of inheritance are not always degenerate, and some individuals clearly degenerated do not count among their ancestors any lunatics or neuropaths. The two terms degenerated and hereditary must be confounded, the one with the other, as it happens often.

One of the principal characters which intellectual degeneracy imprints to lunacy (the only one which is to occupy us) consists in the manifestation of obsessions and of divers impulses. It is under their influence that tendency to murder complicates too often in the degenerated, certain fits of mental alienation. But with these, the circumstances which precede, accompany and follow the murder, are not the same as in the cases above mentioned. We have also observed some persecutes who have reached a determinate period of their affection, kill after mature deliberation. We have seen alcoholics become homicides in trying to escape from their imaginary enemies. With the degenerate deliriants the impulse to homicide is not produced in similar manner. It bursts forth suddenly at different stages of the affection without precise rule, with or without hallucinations or previous delirious ideas.

Melancholy of the *degenerated* takes one of the first places in the conditions of madness, which are susceptible of complicating themselves with homicide. However, the melancholics are more prone to suicide than to homicide. But suicide or homicide, the act with these individuals is so to say, reflex, whether it is accompanied with consciousness or not. It is during the paroxysms of anguish, while the sufferings are unbearable that the patient, in order to escape from them, kills himself, or some one of his surroundings. Often the being most dear to him becomes the victim. The despair which he feels on account of the accomplished deed adds still more to the sufferings he experienced before. At other times it is under the strain of an hallucination, or of a delirious

idea, that homicide takes place, but it is always accomplished with the same conditions of anguish, and with the same spontaneity, which keeps for it the character of a true reflex action.

Besides true malancholy we observe with degenerates still other manifold delirious conditions, more or less partial and more or less systematized. Irregular in their evolution, these psychopathic states sometimes succeed a fit of ordinary melancholy, sometimes a fit of mania, and finally they take place together with their definitive characters.

Many of them reattach themselves to the *paranoia* of the Germans, but in France they are all classified under the appellation of melancholic delirium. These kinds of delirium sometimes complicate themselves, at a given moment, with homicides, which are always perpetrated with the precited characteristic signs. Among these kinds of melancholic madness, it may be fitting to mention particularly the mystic delirium, in which homicide may be the result of delirious conceptions deduced one from the other.

Lastly, certain imbeciles and semi-idiots fall very easily into delirium. The least cause is for them the occasion of hallucinations and of mad conceptions. These insane attacks, ordinarily transitory (to which allusion has already been made while speaking of homicides with imbeciles), are also complicated with divers impulses, among which is the impulse to homicide.

To resume, all homicides perpetrated by lunatics intellectually degenerated in the course of real psychopathic states have invariably characters, which lend to them a special common aspect; this allows in legal medicine to reunite them, and thus to form a well-determined class. It remains to signalize a last category of very rare and very remarkable facts. Some intellectually degenerated individuals, not mentally debilitated, that is to say of normal intelligence, are tormented by homicidal obsessions of the most violent kind. They have neither hallucinations

nor true delirious conceptions, but they are persecute by an irresistible desire, an imperious desire, to kill. Generally they resist as long as they are able, because they have the exact notion of the grievousness of the crime which they feel themselves dragged to commit. The object of their obsession is often a person whom they love, as a child or parent, a relation, etc. If the circumstances do not oppose it, in spite of the horror with which the action inspires them, they end by succumbing to it.

To this obsession, which is preceded by intermittent attacks, or which, is at least paroxysmal, there always combines to itself anguish. These characters, and others besides, which it would be idle to mention, bring this phenomena of homicidal obsession in relationship with other morbid phenomena equally as strange; for example, the obsession to suicide and certain perversions of the sexual senses, nécrophilic for instance.

They have specially studied these strange phenomena a great deal in later times, and it has been recognized that they are united together with a common tie of relationship. They constitute one of the superior limits of intellectual degeneracy, and the origin is almost always found in morbid heredity. However, I believe that though in those cases where heredity is the rule, degeneracy may also be acquired.

I do not think it is necessary to mention the homicide committed by subjects designated by the name of *moral lunatics*. Moral madness, in spite of the name given to it, is, according to my views, a thing foreign to madness. In fact, we must exclude from it (from this moral madness), the patients of whom we have just treated, and who are under the influence of obsession or impulsion, two phenomena of a strictly pathologic order. What are then the subjects who remain within the domain of this moral madness, which they want to attach to lunacy? Some individuals void of any notion of honor or of honesty, with whom human life counts for little,

whose actions are ruled only by passion, by instinct and by selfishness, who often glory in their misdeeds, and who commit evil for evil's sake. Well, such individuals are not mad, they are criminals. They belong to the class of *born criminals* of Lombroso. This scholar has himself proved the identity which exists between his born criminal and the morally mad of certain authors.

Amongst the reasons which have led to assimilate the morally mad with the lunatic, some are without great value, these are those which are established upon the ancient metaphysical conception of free will; others are of scientific order. Thus it has been observed that the moral lunatics possessed much more often than the normal subjects, physical and psychical signs of degeneracy. It has also been noted with them heredity is frequent, neuropathic heredity, as well as hereditary to crime. It must be recognized that these two conditions approach them really with the insane, but they are not sufficient to idenitify them with the others. They indicate only that the morally mad and the true lunatics have a common origin. This origin is degeneracy, which ends either in madness or crime. We have therefore nothing to do with homicide committed in moral madness; this would be leaving the domain of medicine.

The moral madman is not a lunatic, he is a born criminal, consequently whether he be considered responsible for his acts or not, enters not into our province; besides, responsibility as the moralists understand it, is a question connected with free will and the *nuisance* alone, as has already been remarked is susceptible of being studied, measured, and finally foreseen. In ending this summary exposition of circumstances and of different conditions in which we may observe homicide during the career of mania, I shall call attention to a point which is not without importance.

We have seen that certain patients who are not primitively degenerated, but who have reached an advanced period of brain affection, proceed sometimes when they

have become homicides in the manner of veritable intellectual degenerates. Thus old alcoholics, when they kill do not act under the influence of delirium, but under the influence of fury. Also the old epileptics when they become homicides, outside of their accesses of epileptic mania, act in consequence of an impulse, of a sort of reflex character; with them the instinctive centers are sufficiently inhibited by the anterior centers. It is precisely thus that things happen with the delirious degenerates. It seems therefore that their brain, primitively healthy, has become unbalanced, inferior through modifications (brought on in time) in its functioning by the affection of which it is the seat. This observation has already been made by Billod.

PART II.

In legal medicine it is not sufficient to affirm that a given murder has been committed under the influence of madness; it is moreover necessary to show that the homicide in question is a clinical phenomenon, constituting part of a known morbid state, which has been well studied and characterized, and that it has nothing unusual from a mental pathological point of view. It is also necessary to establish its genesis if possible, that is to say, the psychological process which has caused its manifestation, must be followed. I have tried in the preceding summary to indicate the principal pathological circumstances in which it is so to say, normal, to establish the tendency to homicide. If then in practice, homicide is met with outside of the nosological entities which I have signalized, we must consider the case as abnormal; and search if there are other similar cases in science. But the most often, in studying more attentively the subject, one will recognize that the supposed abnormality does not exist, and that the case which seems exceptional re-enters into the common rule. Here is a proof furnished by the observation of a maniac named:

A., author of four successive murders. The man seemed at first sight to belong to no psychopathic class in which homicide is observed either as a symptom or as a complication, but after a more attentive examination, and with a knowledge of his antecedents, it became easy to establish that he was in the same condition of disequilibration as the intellectually degenerated, and that in sum, his case had nothing abnormal. He was a *cerebral* as Lasegue used to call this class of patients. In other terms he was attacked with non-hereditary intellectual degeneracy, acquired in the adult stage of life. I was charged by the Judge of Instruction of Chateaudun to examine him, and to report upon his mental condition. This is the slightly modified report that I transcribe here.

I think that I should at first expose the antecedents of A., then the murders committed by him, with the peculiarities which have accompanied them, insisting only upon the points which may furnish indications in regard to the study of his mental condition. After this I will describe the symptoms presented by A., since he is under observation at the asylum, finally the difficult elements of the problem of psychiatry to be solved, being thus methodically classified; I will then discuss their value, causing the importance of several among them to stand forth and establish a diagnosis based upon their grouping, which will constitute the conclusion of my report.

A. is a man thirty-two years of age, of rather short stature, but strongly muscled, and of exceptional strength. He does not present the least sign of physical degeneracy. According to the most careful research, he belongs to a family in which neither insanity nor epilepsy have ever been observed. His father and his mother died quite young, of typhoid fever; the relations who remain to him, uncles, brothers, etc., are in good health, and are not remarkable for any originality of character or any intellectual blemish. He has four children of tender age,

all healthy, sound, and robust, the older ones having intelligent physiognomies. A. himself up to January, 1891, had never been sick, since then he has suffered much. I will return to the symptoms presented: He never had convulsions during his infancy, he has never had typhoid fever or any miasmatic fever. It is possible he may have had syphilis before his marriage; at least, he pretends that he had, but his four children are perfectly constituted; they do not present any sign of hereditary syphilis, and his wife has never suffered a miscarriage. We may then suppose that if he has been affected as he says by a disease of the genital organs, it was a question of only a slight venereal disorder, but whatever the case may be, we must notice the possible, if not probable existence of syphilis in his antecedents.

From a mental point of view A. has always been moral, as appears from information gathered from his wife, from his employers, from his neighbors, from the Mayor of his Commune, and others. Gifted with an ordinary intelligence, he had the tastes and habits of his class. Sometimes he drank a little, but he was not a drunkard; he was a hard-working, orderly father of a family, and enjoyed the esteem of all; he had no enemies. To resume: A. was a robust man, free from all neuropathic blemishes either hereditary or acquired; of good morals, well-balanced, possessed of ordinary intelligence, well-behaved, and lived peacefully with all.

But nine months ago, in January, 1891, his health, heretofore good, commenced to change. He was taken with violent attacks of headache, which became more violent daily; he consulted several physicians, but none of the prescribed medicaments gave relief, at the same time his eye-sight grew weak, especially that of the right eye, and soon he could neither read nor write, and shortly all work became impossible for him. He undertook a job, but almost immediately was obliged to abandon it. His violent headaches prevented his continuing; during the paroxysms he had giddiness and vomiting. These

continual sufferings soon began to affect his character. He became sad, distrained and gloomy; he spoke little, and his replies were dry and overbearing; he became excitable. His wife, who gave this last information, also noticed that his memory was failing. It was also evident to persons living near him, as an example of this weakening of the memory, being asked by a relative the name of his youngest child (two days after its baptism), it was impossible for him to answer; he did not even remember the family name of the godfather.

We notice that A. had been attacked almost since nine months with a progressive disease, and which at last was characterized by the following symptoms: Violent and frequent accesses of frontal headache, with giddiness and vomiting, modification of character, which has become gloomy and irritable, double amblyopia, especially marked at the right side, finally troubles of memory.

We come now to the narration of the four murders committed on the morning of September 10th, 1891. The evening before, A., who lives in a small hamlet in the Commune of Dampierre, in the department of Eure and Loire, had gone to see a physician in a neighboring town. He had also consulted a quack, who had the reputation of being able to drive away spells and charms. This idea of being bewitched had already generated in the head of A. before the day of the catastrophe, but exactly when I have been unable to discover; neither he nor his wife can or will answer this question categorically. This evening, returning home, several persons who saw and spoke to him remarked nothing abnormal in him, neither in his person nor in his manner. He was not drunk, although he did drink some during the day. The papers in the case contain the enumeration of the drinks he had taken in the wine-rooms, and we see that he has not taken any considerable dose of alcohol. Having returned home, he passed a horrible night, during which he was a prey to anguish, hallucination and delirium. This is gained from the interrogation of his wife. To-day,

he himself remembers very well the different accidents of this night, and narrates them willingly. He retired to bed and slept a little at first, but awakened in a short time, tormented by a violent headache and by sentiments of anguish, someone stifles him, he is choked, he suffers frightfully, he tries to explain his sufferings from the fact that he has wrongly taken the prescribed medicine, that he is poisoned and is going to die. He thinks that in praying he may be delivered, and he begins to recite a prayer in a loud voice, and insists that his wife do the same. This was an act foreign to his habits: he never said any prayers.

After a short time, he feels little better and returns to bed and sleeps a little, but for a few moments only, pain reawakens him again, this time to terror and anguish; hallucinations of hearing and sight are added, and a delirious idea suddenly takes root in his brain. Voices talk to him and tell him that he is lost, he is stifling and his head is ready to burst, his throat is choked up, he sees one of his neighbors, M., at his side. Now arises this idea, it is his spell which stifles him, and it is M. who has cast it upon him. He bites himself in the arm (the scar of the bite was still to be seen two weeks after), trying to diminish his mental and moral sufferings—in provoking bodily physical pain. But his anguish persists in intensity, the hallucinations continue, he still sees and hears M., he laments, he gesticulates, he is covered with perspiration. At this moment arises an instantaneous impulse! He must kill M., who is here, at hand—M., who has cast this spell upon him, after which he will be delivered. He will be at peace and suffer no more. From this moment everything appears strange to him, he has only one aim, one thought, to kill M.; all his physical activity is directed toward that end; this homicidal impulse suffers no control. He does not know why he must kill. The conscience is entirely filled by the desire to kill; there remains no room for any other idea. Here is what happened: A., half-clad, takes his gun and

fires through the window upon M., whom he believes he sees outside. Several pains of glass are broken, then he goes out and pursues his enemy, whom he perceives flying before him, he fires several shots; at last his gun, which is in bad condition, and which he has loaded badly, in his precipitation, bursts in his hands, he gets rid of the stock and keeps the barrels, of which the one which is burst presents at the level of the rent, cutting borders, and sharp points. It is with this redoubtable weapon in the hands of a man of his strength, that in a house, into which he had forced himself, while still pursuing M., he kills a woman, and a little boy, mother and son, also another woman who had run to the help of the first two victims, and at last an old man whom he finds in his way as he goes out of the house. After the fourth murder, he tries still to force himself into another house, where two frightened women had taken refuge. However, he does not make great efforts to break the door, the two women having given him their names he is satisfied. He becomes calm and returns to his home, and tells his wife all that has happened. His fury had cooled down, he was still trembling greatly, and his face was covered with perspiration, but he talked without raving, and could give a perfect account of all that had just happened, and of the murders he had committed. At this moment, he said coldly that he regretted to have murdered four persons, that he had taken them for M., and that he wished to kill M. alone.

The four homicides had been accomplished in the same manner, falling furiously upon his victims and striking with the gun-barrels with all his force. All four had their heads crushed, and strange to say, he counted aloud the strokes he gave them, his idea being to give each one sixty strokes. When asked for his reason in this, he said he did not know, but *it* told him to do so. It seems that after killing his first victim, he wanted the little son of his victim, whom he killed a few moments later, to embrace his mother and dragged him before

her body. He remembers the fact perfectly well, but can give no explanation for it. "It told him to do so."

The second day after he was sent for observation to the asylum at Bonneval. The evening before he tried to strangle himself with his handkerchief in the prison at Chateaudun. I sum up here the medical notes taken every day in his case. September 12th: A. has a melancholy air; he is depressed; he expresses himself slowly and not without difficulty, his ideas are troubled, and a certain effort is necessary to enable him to fix them upon any point, or to answer questions. As soon as one ceases to question him, he becomes mute; left to himself, he sighs deeply, he groans, or repeats ceaselessly these words: "I wish to die! Why, I must die, in order to escape from justice!" However, we succeeded in making him tell the circumstances of his outrage, but he does it in a diffuse and confused manner. In order to keep his attention, it is necessary to repeat continually the questions, or put him constantly back to the scene of his narration. If not, he stops and recommences to whimper and returns directly to his monotonous expressions, "I wish to die! I must die!"

Outside of his fourfold homicide, the idea of which absorbs him; it is very difficult to obtain from him answers at all satisfactory. In reality his mental faculties are partly clouded. In the evening he complains of the noise they make around him. He pretends that someone peers at him through the cracks of the door. He evidently still has hallucinations, and especially illusions of sight and hearing. One perceives that he interprets in a delirious manner the real noises that he hears or the objects which he really sees. His physical health is good. He has no trembling of the fingers or of the tongue, he has eaten but little up to now, and he absolutely refused wine. He says some one wishes to hurt him.

September 13th. Same condition almost as yesterday. I asked him the name of his wife. At first he could not

give it, and succeeded in giving it, only after a moment of trial. Here is neither true amnesia nor simulated amnesia. The patient is unable to fix his attention rapidly upon that which I say to him. He first has to make an effort, which requires a certain time. This phenomenon is due to the fact, that he is entirely taken up with the thought of the murders he has committed, and by all sorts of fears, especially by the one that someone wants to poison him, and also by the desire to end his life, to get rid of it at once, together with his sufferings. If this condition should accentuate itself still more the patient would enter into a period of stupor.

September 14th. He complains still more than on the preceding days. He is more and more preoccupied with the fear that someone will hurt him. He eats scarcely anything. We can get nothing out of him, except these continual remarks: "I wish to die! it is necessary that I die! They want to poison me! They want to hurt me!" It is impossible to make him understand the bad logic that exists in these conceptions. He is still more gloomy than ever.

September 15th. During the forenoon, without being able to foresee the act, A. threw himself upon the keeper detailed to watch him, and tried to strangle him, but the keeper, aided by his comrades, who hastened to his aid, restrained him. A. is greatly agitated, and with wild expression cries: "They are going to kill me! They are going to poison me!" He is isolated in a single cell, and is hardly shut in, when he precipitates himself with all his power, head foremost against the walls, which are covered with pannels. He wounds himself severely in the head, and bleeding profusely, falls to the floor; the wall is stained with blood and the floor is covered with a pool of blood. It is necessary to fasten him securely. His wound is dressed, during which time, he is still more incoherent and agitated by the same fear of injury, the same idea of self-destruction. It becomes impossible to make him take nourishment of any kind;

in the course of a day, he succeeds in breaking his restraints, and tearing his camisole. He is kept under constant surveillance by reliefs of attendants.

September 16th. This is a bad day for A. His agitation is as violent as ever; in all he takes but a few swallows of water. I fear an access of acute delirium, and in spite of the resolution I had taken in the beginning to abandon the man to himself without treatment, in order to modify in no-wise the form of symptoms he might present, either in their progress or succession, we were obliged to interfere, and try to calm his excessive agitation, which threatened to end in acute delirium. I administered morphine hypodermically, and caused to be administered by force an energetic cathartic.

September 17th. The agitation is much less violent, the mental state becomes what it was before the crisis of superexcitation of the last two days.

September 18th, 19th and 20th. There is little change, although, I notice a certain tendency toward amelioration; he commences to take a little nourishment. We try to test the state of his affective sensibilities; we speak to him of his wife and children. He says he would like very much to see them; that it is a misfortune, that he wished to die, and that we should send him a priest to confess his sins—but he hardly realizes the sad condition to which he has brought his family.

We enumerate to him the names of the four persons he has killed. He repeats that this is unfortunate, that he must die, that he is crazy, that he believed that it was M., and that he wished to kill only M., that he does not want to be harmed nor poisoned. He evidently feels far more pity for himself than for his victims. We observe in this patient *that* perversion of the affective sentiments habitual in melancholia. He is little affected by the sufferings of others. Although he is the author of them, he thinks only of himself, of *his* sorrows, of *his* pains, and of *his* fears. His remorse is light. A., presents a symptom which is frequent with the melancholias.

He searches in his past life the reprehensibie facts which may exist there. He avows them either as they existed or modifies them. We know that the melancholics sometimes invent faults which they have not committed, and that they end by placing them in good faith to their credit (sentiments of imaginary culpability). A. accuses himself to have stolen fifteen francs from a comrade, which he afterward threw into the river. Whether the fact be true or imaginary matters little. What is to be noted, is that in point of gravity, he puts theft and murder on the same level; and that he has no consciousness of the difference which exists between these two acts. The whole only contributes to show the real craving for moral suffering and sadness proper to melancholy (which on this account is fittingly called lypemania). This is an interesting psychologic character from a diagnostic point of view, and may be useful in research of simulation.

Finally, if one approaches A., he keeps on repeating the same sentences continually: "I was crazy when I killed the four persons; I am very unfortunate; it was not my fault, since I am crazy; I see plainly that they want to do me harm; I don't want to be poisoned; I want to go away from here." We try to make him explain the spell, which M. has cast upon him. Sometimes he is sure that he has really been bewitched, sometimes he says, "he believed he was, but that he does not believe it more." However, it is certain that the idea of witchcraft has not left him. This idea always occupies his thoughts. It is less absorbing in these later days, and does not occupy the entire consciousness, but it still exists, and would awaken on the first occasion, as intense as at first. In fact, he quite often says coldly, that it was M. whom he should have killed; that he would do it again when he suffers, because it is a spell of witchery which is cast upon him.

September 21st, and following days. The amelioration continues but not to a marked degree. In sum; his

condition remains stationary. We still find hallucinations, illusions and some delirious ideas, but less intense. Especially, he is far less excited. However, we always fear some new crisis of excitement and new impulses. Once when the nurse wanted him to take better care of his person, and to wash himself, he became very angry; he looked wicked, but the incident had no other consequences.

We may thus briefly describe the mental state of A.: Slight melancholy depression, confusion of ideas, vague and badly systematized preoccupation, in the sense of persecution, and especially the fear of being poisoned; some hallucinations and illusions of sight and hearing; moreover, a feeling of despair, absorbing preoccupation of the thought of the act he has committed. And finally, a desire to die, and marked tendency to suicide!

To-day, February the 1st, 1892, the situation is still the same. Let us now sum up the pathologic history of A. Up to his thirty-first year, A., is in good physical and mental health, without any neuropathic blemish either hereditary or acquired: at this period of his existence he becomes diseased. His malady is characterized by violent headaches, seated in the frontal regions; accesses supervening, which are accompanied by rapid progressive weakening of the eye-sight, by trouble of memory; and lastly, by certain modifications of character. The weakening of the sight is probably due to an atrophy of the optic nerve. At the examination with the ophthalmoscope, we find the right papilla with irregular outlines, and of mother-of-pearl color, which the examination of the left renders more evident. He has also permanent dilation of pupil of the right side. It is important to ascertain what this disease is, which goes on ceaselessly growing in intensity. It is certain that we have a disease of the nervous system; affecting especially the anterior parts of the brain. This is all that we can affirm. In seeking to verify the diagnosis we make supposition more or less plausible.

Is there any lesion or tumor permanently developed in the brain or its vicinity affecting it consecutively? It may be, and it is here, that the idea of the possible existence of syphilis in his antecedents may intervene. But nothing demonstrates it in a certain manner. We have never observed apoplectic attacks or symptoms of paralysis, which contributes to render the diagnosis obscure.

Is there only a profound elementary lesion manifesting itself only by functional troubles? This possibility is slight, but the supposition should not be rejected. Again, one thing is certain, that the different symptoms observed have their right to exist in a morbid modification of the anterior part of the brain, and the pathognomonic point is sufficient in the actual case. It results in fact, that A., who has no hereditary blemish, finds himself, in consequence of his cerebral affection, which dates back only nine months, in the same condition as an hereditary neuropath, because the consequences are the same whether the neuropathy results from morbid heredity (which is the most often observed), or whether it has been acquired. The brain of our patient has become an infirm brain through accident and under the influence of madness. It will react in the same manner as infirm brains through morbid heredity. We have sometimes characterized these subjects in saying, that they were hereditaries themselves. In consequence of his cerebral affection, A. has become an intellectual degenerate; and I must insist upon this point, because herein lies the explanation of the homicidal impulse, which burst forth at the beginning of a simple access of melancholy; we can now understand what has taken place. A., attacked with intellectual degeneracy, in consequence of a disease of the anterior parts of the brain, has suddenly, during the nights of the 9th and 10th of September, an access of melancholy delirium. This access was latent for many months, and characterized by anguish, by terror, by troubles of the general sensibility, by different hallucinations and illu-

sions, and by a delirious idea of witchcraft. Almost instantly, a homicidal impulse arises in his mind, before which everything else disappears; the patient having become as a stranger to everything surrounding him, is entirely carried away by it. It is here that the pathologic reaction of the infirm brain manifests itself (the brain in degeneracy). The clinic teaches that impulses of this kind arise only in conditions of cerebral degeneracy, hereditary degeneracy the most often, but also acquired degeneracy. Sometimes, as in the present case, the anterior parts, of the brain (momentarily at least), lose their power of control and of arresting spontaneity upon the posterior parts, seat of the instinctive centers; action then becomes, so to say, automatic.

[NOTE.—In many circumstances these marked phenomena of inhibition, or better, these morbid phenomena, dependent upon a defect of inhibition, are perhaps due to an arrest of development of certain parts of the brain or to defective development of these parts (fibers of conjunction, which bind together the different territories) in congential cases, and also in pathological degeneration of these same parts in acquired cases. This is a theoretical view which is in accord with the science of the present day upon localization, but which has not been, as yet, controlled by direct observation, or by pathologic anatomy.]

The act accomplished, a relative equilibrium establishes itself in the workings of the brain, the delirium may persist, but the impulse has disappeared from the consciousness. Thus it was with A., who having perpetrated his four murders, has preserved the remembrance of them, has explained them, and has even regretted having committed them; while still preserving the idea which was the original cause of the impulse, that M., his neighbor, had bewitched him.

Such is the medical explanation of the quadruple murders committed by the accused. A few words more upon the subject of the diagnosis of the access of mental

alienation presented by A. At first being placed in the presence of this fourfold homicide. committed under the circumstances that we know, it was natural to attribute it to epileptic mania, to alcoholic mania, or to delirium of persecution. The examination of A., though superficial, has quickly shown, that with him there was no question of any of these morbid entities. This is so evident, that it is not even useful to draw up a statement of a differential diagnosis, and to enumerate the distinctive characters which exist between these different mental maladies, and the access of melancholic delirium with which our patient has been affected a few hours only before the scene of murder.

Two strange peculiarities could be observed during this scene of murder. First, why did A. select M. from among others of his neighbors as his enemy, as the one who had bewitched him? Again, why has he tried to give, while counting them aloud, sixty strokes with his weapon, to each of his victims? A. thought it was M. who bewitched him, in consequence of an unconscious mental labor, an unconscious cerebration, as this psychic phenomenon is called. The mother of M. had previously advised him to consult a quack who cured unknown diseases, and drove away charms and spells. This simple fact has become, for the patient, the point of conception of an association of ideas which unfolded themselves unknowingly to him, and it may be that he took not the least part in them. The last term of this association of ideas has been the absolutely conscious conception. It is this—that his charm or spell has been cast upon him by M. It is often easy to explain. Thus, with the act of unconscious cerebrations the conceptions and acts of lunatics are most strange. We perceive then, that conceptions and acts abnormal as they may appear, have nevertheless, an origin, a logical point of differentiation.

The circumstances of the sixty strokes given to each one of the victims, is most difficult to explain. We may search for the reason of the fact in some imperative

hallucination of the hearing. Perhaps it would be more rational to cause to intervene the influence of some delirious conception with the homicidal impulse, arising at the same moment in the mind of the patient, and remaining associated with him to the end. The idea to make the child embrace the dead body of the mother, might have a connection with the same mystic sentiment, equally contemporaneous with the impulse.

We have remarked that A., a little before the scene of the murders had prayed aloud. He was therefore under a mystic influence foreign to his real nature. But we must acknowledge that these are considerations which are entirely hypothetical.

I believe, *en résumé*, to have demonstrated by all that precedes, that A. was attacked by an access of melancholic delirium and with an homicidal impulse, sudden and irresistible, on the nights of September 9th and 10th.

To-day, February 1st, 1892, the access of melancholy still persists, but is less intense, however. Thoughts of suicide and of homicide still continue to haunt the mind of the patient, who still remains quite depressed, and the dangerous impulses could awaken from moment to moment, in him, as violent as in the commencement.

What will now be the ulterior result of this affection? It may end in recovery perhaps. Recovery from melancholy is not rare. But the brain of the patient, aside from being the seat of the actual psychose, is in a peculiar pathological condition upon which we have more than insisted, and this circumstance renders the real cure of the psychosis very improbable. We should rather admit that the vesanique access will prolong itself, and that it will become chronic. Without doubt, it will then suffer some modifications in regard to its form and symptoms. It may systematize itself more, and may transform itself into a melancholic delirium, with ideas of witchcraft and persecution, but we must foresee that irresistible impulses analogous to those which have already been produced,

will continue to be produced in the future. In consequence, I am led thus to formulate the conclusion of my report.

First: A. is attacked with mental alienation (melancholic delirium). He was already insane, when under the influence of an irresistible impulse, he committed four successive murders.

Second: He is therefore completely irresponsible for his acts.

Third: A. is a very dangerous lunatic who must be confined in a special asylum.

These conclusions have been accepted by the judge of instruction. A., profiting by an *ordinance of nolle prosequi*, is sent to the Asylum of Bonneval, where he is at present. His mental state February 1st, 1892, has not undergone any remarkable modification.

The few principles of legal medicine, concerning the insane, which I have touched upon in this paper are exposed in a very concise manner, consequently it is useless to reproduce them in finishing, under the head of recapitulation. My principal aim has been to relate a case of homicide by a lunatic, perpetrated under circumstances which seemed different from those in which madmen become murderers, and to demonstrate that in reality such cases do not exist. The detailed observation of A., combined with the knowledge of the real mental condition of the patient, cannot but corroborate the data acquired to-day upon homicidal impulses in lunacy. Mental pathology possesses as yet no anatomo-pathologic bases, but in a few only of its facts. It is nevertheless, in its whole, constituted after the rules of a strictly scientific method, which is founded upon observation and experience, that is to say, upon clinical and upon cerebral psychology. The form of this brief work, forced me to present at first, "A Summary of the Semeiology of

Homicide in Lunacy." This I have done in endeavoring to retain the ideas really acquired to science, and laying aside all those which are still in controversy. I have even abstained for this reason from signalizing homicide in general paralysis, although there exist some incontestable cases of this kind but these cases are not numerous, and they are not sufficiently studied to enable one, at present, to draw clinical conclusions from them.

PARETIC DEMENTIA AND SYPHILIS.

By Jas. G. Kiernan, M. D.,

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SINCE the publication of my article, nearly a decade ago, on this subject* increasing attention has been paid to it. Nearly all the contributions are permeated by the tendency to view this subject from the stand-point of syphilitic ætiology. I had analyzed a series of dicta and a single case; the analysis tending to show that demarcation of syphilitic dementia was impossible from either a clinical, therapeutic or prognostic stand-point. Savage,† while admitting that a large proportion of cases have not only a syphilitic history but a true syphilitic origin, cited some conclusive arguments against the luetic origin of paretic dementia. He cited the case of twin paretic dements who led totally different lives—one, sober and diligent; the other, intemperate and licentious. He, as Dr. Jacobson,‡ of Copenhagen, points out, took substantially the same ground as I did anent the demarcation of syphilitic from non-syphilitic paretic dementia.

Many tests have been suggested, but one of the most interesting is that of Minor,§ who has made a decidedly interesting analysis of 1842 Russian neuropaths. Of these 760 were Russians (496 males, 264 females) and 882 Jews (449 men and 433 females). Seven per cent. of the male Jews, three-two per cent. of the females were luetic; twenty-five per cent. of the Russian males and eleven per cent. of the females were luetic. Six per cent. of the Russian males were tabetic. Of these ninety per cent. were luetic; two

* Alienist and Neurologist, 1883.
† International Medical Congress, 1887.
‡ *Journal of Mental Science*, 1892.
§ *Neurologisches Centralblatt*, July 1, 1892.

and a half per cent. were paretic dements; of these eighty per cent. luetic. One female was tabetic and luetic: three were paretic dements, of whom syphilis was certain in one and probable in two. Six-tenths of one per cent. of the Jews were tabetic and the same percentage luetic. Four-tenths of one per cent. were paretic dements and the same percentage was luetic. There were no paretic dements among the Jewesses and but one tabetic, who was luetic. Paretic dementia and lues were therefore five times as frequent among Russians as among Jews, and this percentage was equally true of lues. Major asks of a case if paretic dementia has ever been observed in which hard chancre has been contracted since the onset of the psychosis?

Minor is evidently unacquainted with the results of Ripping* and Snell,* who found that syphilis was sometimes merely an epiphenomenon of paretic dementia, concomitant, as I pointed out about a decade ago,† on the sexual excitement of the earlier stages of this psychosis. This period is one in which syphilis is very likely to be contracted by men who have led hitherto blameless lives. I reported one such case half a decade ago, and ten others have come under observation:

CASE I.—Came under my observation at the Cook County Hospital for the Insane, and was that of a 73-year-old, married, Irish hotel man. The patient, about six months before admission, suddenly began to display wandering tendencies and dissipated habits. He had a congestive chill, from which he passed into a condition of stupor, from which he recovered, complaining of cold (his temperature is subnormal). He contracted the initial lesion of syphilis about this time and in the course of a month complained of being dead, had hallucinations of hearing and delusions of persecution by a priest. On admission he had these delusions and hallucinations well marked. He had secondary luetic ulcers on his limbs. Under the modified McDade anti-syphilitic treatment (mercury bichloride gr. 1-32, being added to the original

* "Allgemeine Zeitschrift f. Psych.," B. XXXVIII.

† ALIENIST AND NEUROLOGIST, 1883.

formula) the ulcers improved, and with them the patient's delusions of persecution and hallucinations grew fainter, until he was not certain that they were aught but imagination. He presented, on admission, slight physical evidences of paretic dementia. These are now well marked, and he displays a silly optimism and contentment with his surroundings. His temperature is 94.5°F. right, 96°F. left side. The tendon reflex was normal.

Case II.—A 42-year-old American woman; had been a respectable wife and mother up to the approach of the menopause, which occurred at thirty-nine. She then became very boisterous in manner, negligent of household affairs and became gay in attire. These symptoms improved and her former neat habits were resumed six months after an apoplectiform attack occurred, which was followed by the physical symptoms of paretic dementia, attended with somewhat grandiose delusions. There was then considerable remission of all symptoms, followed by an emotional state, in which she contracted a chancre, followed by secondary fever and eruption. During this period she was much depressed. She died a year later in an apoplectiform attack.

Case III. was that of a German, 45 years old, who came under care with decidedly well-marked physical and emotional symptoms of paretic dementia. He was taken out by friends and returned in two months with a hard chancre. During the secondary fever he was relatively quiet. He became hemiplegic during an apoplectic attack and died extremely demented.

Case IV. was that of an Irish contractor, who had been very sober, diligent and industrious up to the age of 50, when he suddenly began to squander money in wild dissipation. During one of these orgies he contracted a chancre of the corner of the mouth. This was at first regarded as an epithelioma, but its history was suspicious and it disappeared under mercurial treatment. The psychosis ran its usual course.

Case V. was that of a careful, industrious Scandinavian, who manifested the physical and psychical symptoms of paretic dementia after undue financial strain. He then went on sprees, squandered money lavishly and on one

occasion slept in a low lodging house. Here he exchanged clothes with a tramp in a fit of paretic generosity. The result was luetic infection of the side of the scrotum, which yielded to mercurial treatment. The patient died in an apoplectiform attack.

Cases VI. and VII. were those of a 60-year-old man, who, together with his wife, became paretic dements after a two-years' financial struggle, in which their all was involved. He was induced to enter a disreputable negro den in one of his wandering periods and there contracted syphilis. This he communicated to his wife. Both died within a year after the primary luetic infection, but three after the onset of paretic dementia.

Case VIII. was that of an Italian woman, who became a paretic dement secondary to traumatism. During a remission she contracted the initial lesion of syphilis.

Cases IX. and X. were two brothers, who broke down under excessive business strain. During the resultant emotional exaltation of paretic dementia they visited various disreputable dens. One of them contracted the initial lesion and became so excitable as to require hospital treatment. The other continued his course and became sexually impotent on normal coitus. He came under care with a tongue chancre.

These cases simply answer Minor, who, in his application of his test, has ignored the possibility of syphilitic reinfection.

Progressive Muscular Atrophy.

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THE theories and teachings of the nature of progressive muscular atrophy have varied much since the disease was first recognized, and are still far from settled. Duchenne and Aran, to whom we owe the full description of the disease, the most common type of which still goes by their name, believed it to be primarily muscular in character, a belief which was long and generally entertained. Then Remak and others, taught that it was due to lesions in the sympathetic nervous system. When, with improved methods of examination, changes were frequently found in the cord, as well as the muscles and peripheral nerves, the spinal origin of the disease was generally recognized; and, finally, Charcot and his school taught us to seek the disease in the large ganglion cells of the anterior cornua, the trophic centers of the muscles.

With few exceptions, then, progressive muscular atrophy was considered to be a spinal disease; but, gradually, the opinion grew that under this term were included different diseases, quite distinct in character. Leyden, in his classical work on "Diseases of the Spinal Cord," published in 1875, describes separately what he terms the hereditary form of progressive muscular atrophy, which is characterized both by its hereditary features, often occurring in quite a number of different generations, and by its mode of onset, affecting first the inferior extremities. Leyden expressed a doubt whether this form of the disease, like the common type, was of spinal origin.

Note.—An address, with presentation of patients before the Academy of Medicine, Nov. 14, 1892.

In 1883, Erb described what he considered a distinct type of the disease, under the term juvenile muscular atrophy, the distribution being chiefly about the shoulders and upper arms, and back and thighs. This type he classified with a form of disease described by Duchenne, as the progressive muscular atrophy of childhood, and more recently by Landouzy and Dejerine, as the facio-scapulo humeral type of muscular atrophy, and also with pseudo-hypertrophic paralysis, long considered to be primarily muscular in origin. To these three types of disease, supposed to be of the same nature, he applied the term progressive muscular dystrophy, a term signifying improper or false nutrition of muscles, therefore including both atrophies and hypertrophies. All these muscular dystrophies he believed to be primarily muscular in character. Erb's juvenile atrophy was soon observed by many clinicians, and his views as well as his designation, muscular dystrophy, were generally adopted. Charcot described the same types under the designation, progressive primary myopathies.

In 1886, Tooth described another form of the disease, one in which the atrophy is mostly below the knees in the lower, and in the hands in the upper extremities, under the designation of the peroneal type of progressive muscular atrophy. This form had already been observed by others, and a number of cases reported by Charcot and Marie as a special form of muscular atrophy. Quite recently Hoffman has given a very careful report of cases, terming them progressive neurotic muscular atrophy. In this form, in which there are commonly sensory symptoms, the disease has been supposed to be primary in the nerves, to be neuritic in origin.

We would have then under the designation progressive muscular atrophy, three distinct diseases, one primarily spinal, one primarily muscular, and a third, assuming a place between the first two, primarily neuritic. Gowers, in his work on "Diseases of the Nervous System," the most recent large treatise on the subject, and a classical

work, has described the disease in three chapters, the first devoted to the spinal form, the second to the muscular, the third to the peroneal type, which is spoken of as probably, or possibly neuritic.

Let us now consider these different forms more in detail, and consider, too, to what extent this division is justifiable.

First, the disease recognized as the spinal form, or the Duchenne-Aran type of progressive muscular atrophy. This occurs mostly in the adult life, between thirty and fifty years of age. It begins most frequently in the small muscles of the hand, especially of the thumb or index fingers, not uncommonly in the deltoids, and occasionally in the extensors of the fingers. In addition to these muscles it is likely to attack—and somewhat in the order given—the flexors and extensors of the fingers or wrist, the biceps, brachialis anticus and supinator longus, the middle and lower portion of the trapezius, rhomboids, serratus magnus, infra-supra-spinatus, pectoralis major, latissimus dorsi, the muscles of the back, and more rarely those of the lower extremities, especially flexors and extensors of the hip, the quadriceps femoris, and some of the muscles below the knee. In the late stages the extensors of the head, sterno-cleido-mastoids and intercostal muscles may become affected. The abdominal muscles are rarely attacked. The upper part of the trapezius, levator anguli scapulæ platysma, and the muscles of the face almost always escape. Usually the muscles on one side soon become affected like those of the other, so that there is more or less symmetry of the disease on the two sides. Commonly the disease is very slow in its progress, and may remain limited to a few muscles for years, or, rarely, may make no further progress. The disease only leads to a fatal termination when the respiratory muscles are very extensively atrophied, or when it is complicated by bulbar paralysis, a complication, only common when there is also disease of the pyramidal tracts,—myotrophic lateral sclerosis.

The symptoms of the disease are essentially motor ones—paralysis, atrophy and altered electrical reactions. The latter, altered electrical reactions, figure so much in the different forms of muscular atrophy, that I must speak of them somewhat in detail. You know that normally the muscles can be made to contract by applying the electric current either to the muscles, or the nerves supplying them. Now if the nerve be severed and the muscle separated from its nervous center, certain changes take place in the electrical reactions. After some lapse of time it is found that muscle contractions cannot be produced by applying the current to the nerve; that the faradic current applied directly to the muscle causes no contraction, however painful the current may be, but that the galvanic current applied to the muscle produces contractions, even more readily than normally. There is at the same time some change in the character of the galvanic reaction of the muscle. While normally, the negative make current most readily produces a contraction, now the positive make current acts more quickly than the latter, and the muscular contractions are tardy, sluggish, instead of the quick, lightning-like contractions of normal muscles. This kind of response has been supposed to be the expression of pure muscular reactions to electricity, as contrasted with the reactions of the nerves. At least we know when such reactions are found that the muscle is, proximately, normal, but is not in relation with its nervous center, either on account of disease or destruction of the latter, or of the nerve uniting them. The kind of electrical reactions I have just described are termed the reaction of degeneration. What I have described is the complete reaction of degeneration, but we sometimes find a partial reaction of degeneration—only a few of the changes already mentioned. In this case we are most likely to find the sluggish contractions, and the positive pole stronger than the negative, while otherwise the reactions may be normal. Partial reaction of degeneration has the same significance as the complete, only it

may imply the loss of relation of the muscle and its center is less complete.

Now, commonly, we do not find the reaction of degeneration in progressive muscular atrophy. The pathological change both in the muscle and cord takes place very slowly. In the muscle the atrophy creeps from fiber to fiber, quite in consonance, we may believe, with degeneration of cell by cell in the anterior cornua. The changes which take place in the electrical reactions are, then, only quantitative, that is the same kind of responses are found as usual, but they require a much stronger current to produce them. Occasionally the reaction of degeneration, especially its partial form, is found, and in that case, it is reasonable to infer that there have been changes in the cord more rapid than in the muscles, perhaps inflammation and destruction of a group of cells in the anterior cornua.

Another motor symptom often found in this form of muscular atrophy, is what is termed fibrillary tremor, flickering contractions of one bundle of fibers after another, visible to the eye.

Anatomically there is found in the muscles simple atrophy of the muscle fibers, or various kinds of degeneration, and increase of the connective tissue. In so many cases changes are found in the spinal cord, that there is no longer doubt that this is the primary seat of disease. But in many instances, when a *post-mortem* examination was made, changes were found elsewhere than in the anterior cornua, especially in the pyramidal tracts. Disease of the latter and the anterior cornua is found in the disease known as amyotrophic lateral sclerosis, a disease with atrophy, especially in the upper extremities, very much like that of the disease under consideration, and spastic phenomena, especially in the lower extremities. In fact these two diseases, progressive muscular atrophy and amyotrophic lateral sclerosis have been classed by some as the same disease which now attacks a smaller, now a larger part of the cord.

But such a classification appears to be scarcely justified, at least not clinically. For the first is a disease exceedingly slow in progress, the other running a rapid course, usually producing a fatal termination within three years.

We now come to the second large division of progressive muscular atrophies, the muscular dystrophies of Erb. I will speak chiefly of Erb's juvenile atrophy. This usually begins in the muscles of the upper arm or shoulder. The muscles most frequently atrophied are the flexors of the elbow, biceps, brachialis anticus and supinator longus, the latissimus dorsi and pectoralis major, serratus magnus, rhomboid, lower and middle parts of the trapezius, the muscles of the back, especially the erector spinæ, less frequently some of the abdominal muscles, and, in the lower extremities, particularly the quadriceps femoris, psoas, glutei muscles, and sometimes some of the muscles below the knee. On the other hand, some muscles are very frequently found to be hypertrophied. These are the deltoids, infra-spinatus, triceps, sartorious, and muscles of the calf. Very commonly there is considerable symmetry of the disease on the two sides. Erb found certain changes in the muscular tissue, which he supposed to be almost peculiar to this affection, that is, the presence of a large number of hypertrophied muscular fibers. As he found these in early stages of the disease he supposed this to be the primary change, and all else found at a later period—increase of connective tissue, atrophy of muscular fibers, the presence of fatty tissue, etc.—to be secondary. More recently he has expressed a doubt whether the hypertrophy of muscle fibers and slight change in the connective tissue do not begin at the same time.

Erb puts in the same class with his juvenile atrophy, pseudo-hypertrophic paralysis, and the fascio scapulo-humeral type of muscular atrophy. The first attacks about the same muscles as the juvenile form, only it begins in the lower extremities, and is a disease of early childhood, while the juvenile form is rather a

disease of youth and adult life. The fascio scapulo-humeral form also attacks about the same muscles, but it begins in the muscles of the face—the muscles of expression, particularly the orbicularis and zygomatici—and is also a disease of childhood. But not only on account of similar distribution of the disease in these three forms, but also because transitional forms occur, that seem more closely to bind them together, does he classify them together as one disease under the term progressive muscular dystrophies. As distinguishing the latter from the spinal form, or the Duchenne-Aran type of muscular atrophy, are the following features:

First, clinically: the different distribution of the affected muscles as already outlined.

The fact of an hereditary element in the muscular dystrophies, and usual absence of this element in the spinal form. Pseudo-hypertrophic paralysis usually affects a number of cases in the same family, brothers and (less frequently) sisters, and not infrequently, the disease is found in a number of preceding generations. It is very likely to be transmitted through the females, though affecting chiefly, or only, the males. In the other forms of dystrophy, there is also, though less marked, a family history of disease. In the spinal form, on the other hand, the disease usually occurs in isolated cases.

The age when the patient is attacked.—In the spinal form it occurs mostly in adult, or rather middle life. In pseudo-hypertrophic paralysis it begins mostly under ten years; in the fascio-scapulo humeral type, in childhood; and in the juvenile form, though not uncommon in adult years, it occurs usually, at an earlier period than cases of the Duchenne-Aran type, the presence of fibrillary tremor, and—not frequently—of the reaction of degeneration in the spinal form, and usually, their absence in muscular dystrophies.

Second, anatomically: the presence of hypertrophied muscular fibers, especially in the juvenile form; the absence of changes in the nervous system in *post-*

mortem examinations in case of muscular dystrophies, their presence in the Duchenne-Aran type of disease.

Such facts fully justify the division of the large field of muscular atrophies, but whether the nature of the two divisions is as distinct as has been supposed, is very doubtful. Firstly, the clinical distinction cannot always be so sharply marked. As there are transitional forms between the different kinds of muscular dystrophies, so there are between the latter and the cases of spinal muscular atrophy, so that from the mere distribution of the muscular disease it may be difficult to classify the case. Thus, while Erb thought the atrophy of the small muscles of the hand characteristic of the spinal form of the disease, it has also been found in various forms of muscular dystrophy; even the disease has begun in these muscles, while the case was still classed as dystrophy. Then heredity has been found, and the disease has begun in early life, in cases classed as spinal atrophies, while these factors have been lacking in others classified as muscular dystrophies. Again, fibrillary tremors and reaction of degeneration are frequently absent in the spinal form of disease, and occur occasionally in muscular dystrophies. The facts just mentioned show how difficult it may be to determine where a case should be classified, or perhaps, indicate that such a case belongs as appropriately to one class as the other. In other words, that in their nature they are not distinct.

Secondly, the anatomical differences may also not be very distinct. The hypertrophied muscular fibers, supposed by Erb distinctive of muscular dystrophies, have been found in cases of disease of the cord, in one of chronic poliomyelitis anterior of Oppenheim, and in a case of infantile paralysis of Hitzig. Again, while *post-mortem* examinations in cases of muscular dystrophy, usually reveal negative results as regards the nervous system, in a few, changes were found in the cord. It is true the latter may have been accidental, or at least, have no significance as regards the incipiency of the

disease, but nevertheless they arouse the suspicion that the disease, muscular dystrophy, is really of central origin. And this is the view that is now gaining ground. Even Erb, in his latest publication on the subject, expressed the opinion that the muscular disease is due to changes in the ganglion cells of the anterior cornua, but changes so slight that the microscope as yet does not reveal them.

The peroneal type of muscular atrophy is also a disease of early life, and more or less a family disease. It affects chiefly the muscles below the knees in the lower, and below the elbows in the upper extremities. The disease begins in the extensors of the big toe or the common extensors, or the small muscles of the foot, sometimes in the peroneal group, or in the muscles of the calf. It extends slowly from one of these muscles to another, and after some time, attacks the same muscles in the other side. The muscles above the knees may be affected at a later period, but usually, to a less extent, the quadriceps femoris and psoas being most commonly affected. Often years elapse before the upper extremities are attacked, and here it is especially the small muscles of the hands and extensors of the fingers, that become atrophied. Sensory symptoms are not uncommon. These are, most frequently, pains in the affected parts, or along the sciatics. Less frequently is there impaired sensation, anæsthesia. Fibrillary tremor occurs occasionally. Altered electrical reactions, the reaction of degeneration is found in this form, more frequently than in any of those already described. It is the character of the electrical reactions as well as the presence of sensory symptoms, which makes this disease appear to be a neuritic in origin. In addition to the foregoing, and pointing in the same direction are the facts that it appears sometimes, to follow an infectious disease, which is also true of many cases of neuritis; and that the distribution of the muscular affection is the same as is common to most cases of multiple neuritis. Hoffman, in a recent quite extensive

article on this form of disease, in which he gives the careful examination of a number of cases, which came under his own observation, and also a critical analysis of what anatomical data he could find bearing upon the subject, believes that there is neuritis in all these cases, but that the neuritis is secondary to disease of the large ganglion cells in the anterior cornua.

So there is reason to believe that these various forms of muscular atrophy really are of central origin, are due to disease of the anterior cornua, whether that disease be gross, or so inappreciable to the eye that it is termed functional. But if this be true, why there should be such marked clinical differences in these different forms is as yet unknown.

These remarks on the disease in general, are more extensive than I at first intended, and have been made in order the more clearly to present to you a number of patients, illustrating all the described types of disease.

Case I.—The first patient I present to you suffers with the spinal form of muscular atrophy in, as yet, an early stage. The hands are still rather plump and full, and do not appear to be at all wasted. All that is apparent to your eyes is a tendency to claw hands on the left side (claw hands is the commonest symptom of the Duchenne-Aran type of muscular atrophy. It is due to paralysis of the interossei, which flex the first phalanges and extend the others) and to drop wrist in the same hand. Her first symptom was observed three years ago, when she was 36 years of age. This was inability to extend the index finger. Afterwards the same trouble was observed in the other fingers. Within a year some weakness has been observed in the right hand. Now there is paralysis of the extensors of the fingers and thumb, and also weakness of all the small muscles of the left hand In the right hand there is some weakness of the extensors of the fingers. In the extensors of the left fingers, the electrical reactions are lost. In the muscles of the thumb there is partial reaction of degeneration, that is the positive make current, causes contractions before the negative make current, and these contractions are rather sluggish.

The patient is the wife of a saloon-keeper, and for years has washed dishes all day long. Possibly this has been the exciting cause of her disease. There has been no similar disease in the family.

Case II.—The second case is, also, one of the spinal form of muscular atrophy, but as you will observe, much more advanced. A single glance at this gentleman's hands is almost sufficient to establish a diagnosis, the hollows between the metatarsal bones, especially between those of index fingers and thumbs, the apparent disappearance of all the thenar muscles, the metatarsal bones of the thumbs apparently covered with nought but integument, the claw-like hands, are quite characteristic.

This gentleman, 39 years of age, a book-keeper prior to this trouble, therefore using his hand constantly in writing, observed some weakness in the left hand, he thinks first in the thumb, seven years ago. Within a year some weakness was also noticed in the other hand, and soon he could not extend the ring or middle finger of the latter. In the right hand all the movements of the thumb are very feeble, the other small muscles of the hand are paretic, the extensors of the fingers, pronator, flexes of the wrist and eblow are also weak. On the right side the same muscles are affected in the hand, there is complete paralysis of the extensors of middle and ring fingers, and paresis of other extensors, and also paresis of the posterior part of the deltoid. The apparent wasting of the muscles corresponds very closely to the loss of power. The electrical reaction of some of the muscles of the thumb, of the extensors of right middle and ring fingers, is altogether lost. In others a strong current is necessary to produce contractions. No reaction of degeneration has been observed.

Case III.—The next case is one of the peroneal type of muscular atrophy, but yet in rather an early stage.

What strikes you at once in this young lady is her difficult gait. She must walk very carefully, for she is very prone to slip, or stumble and fall. Her gait, as you observe, is a heavy, awkward one. In part it is due to weakness in knee and hip, but chiefly the expression of entire absence of elasticity due to paralysis or paresis of the muscles of the ankles and feet.

About three years ago, when 23 years of age, she observed some difficulty in walking in the left leg. So

far as she now recalls, it was first noticeable in trying to walk on the toes or heel, as in crossing a muddy street. Afterwards a wasting of that extremity below the knee became apparent. About a year ago the other leg became affected. In each instance the weakness was attended or preceded by a pain in the same side, particularly in the neighborhood of the sciatic. She distinctly remembers a pain of that kind preceding by several days the onset of the weakness of the second—the right leg. Pain either in the extremities or the back has been a more or less prominent symptom since.

You observe the wasting of the muscles below the knee on the left side is very apparent. On the right side one cannot speak of atrophy, especially on account of contrast with the left, but she states the limb is smaller than a year ago. On both sides all the muscles below the knee are weak, but much more so on the left, the muscles of the calf being probably weakest. In the eft foot you observe a tendency to the same condition as is termed claw fingers in the hands, and might be termed claw toes here, due to paralysis of the interossei. The left quadriceps femoris, flexors of hip, and perhaps, glutei are not as strong as on the other side. In the left quadiceps there are frequent irregular spasmodic movements, rather than fibrillary tremors, and the same is observed less frequently, in the other quadriceps and the muscles below the knees. No electrical responses could be obtained from the calf muscles even with painful currents. In the other weakened muscles stronger currents are requisite than normally to produce contractions, but there is no reaction of degeneration further than the contractions of some muscles seem somewhat sluggish. The application of a strong current produces considerable spasm of the muscles of a clinic character, which makes the examination very difficult. There is no anæsthesia.

The next two cases are also muscular atrophy of the peroneal type, but far more advanced than the latter, and of especial interest because they affect a brother and sister.

Case IV.—This young girl, 14 years of age, has a much worse gait than the last patient. She is not able to walk at all without braces to support the ankles, and

falls on the slightest occasion. When she was three or four years of age she was noticed to stumble very easily, and at ten (presumably on account of double club-foot) both Achilles' tendons were cut. About three years ago she noticed she could not span the notes on the piano as well as before and, soon, that she could not pick up small objects. Her gait, which possibly had not changed for several years, has been worse, her mother says, since she had the malarial fever last January.

You observe the extreme wasting below the knees in both legs. There appears to be no muscular tissue whatever and the feet are very small for her age. There is absolute paralysis of all muscles below the knees and no response to electricity. The ankle joints are easily movable. There is foot-drop, but the feet cannot be dorsally flexed beyond the perpendicular to the legs. Flexors and extensors of knees are not very strong, and require a rather strong electrical current to produce contractions, but no reaction of degeneration has been observed.

You observe the hollows about the thumbs and in the hands are almost as marked as in the second patient I presented to you. The opponens pollicis and abductor of index finger do not respond to electricity. The others require a moderately strong current. Again, there is no reaction of degeneration. There have been no sensory symptoms, no pains nor anæsthesia. There has also been no fibrillary tremor.

Case V.—This gentleman, brother of the preceding patient, presents exactly the same symptoms as his sister, excepting that the muscles of the thigh are intact. Possibly for that reason his gait is very much better than hers. He is also more secure on his feet than the third patient, though his gait is more awkward.

He remembers running and jumping as a boy and dates his disability from ten years of age. Since then he thinks his gait is very much the same as at present. He is a postal clerk and remembers that about eight years ago (he is now 35) he noticed he did not use his hands as well as before. As regards both his hands and legs he is uncertain whether the trouble came on abruptly or slowly. But that uncertainty probably proves that the onset was not sudden, for in that case it must have made sufficient impression to be distinctly remembered.

There is great wasting below the knees; all the muscles

are paralyzed; the only movement is the least possible of four outer toes of left foot. None of the paralyzed muscles respond to the electric current. The muscles above the knees are normal. You observe the hollows in the hands indicating the muscular atrophy. But he retains sufficient power in approximating thumb and fingers to attend to his duties, assorting letters, as well as his associates. There are and have been no sensory symptoms. There has been some fibrillary tremor of the muscles of the thumbs. No reaction of degeneration has been detected.

Case VI.—The next case is one of the juvenile form of muscular atrophy. I presented this patient to the academy nine years ago, four years after the inception of her malady. Her trouble began with weakness in the right leg, soon followed by the same condition in the other leg and in the back, and a few years later in the arms. When I first presented her to the academy the most noticeable features were her gait, her manner of rising from a sitting to a standing position and the curvature of the spine.

Her manner of rising from a sitting position was that so characteristic of pseudo-hypertrophic paralysis, the patient beginning by pressing with her hands upon the thighs, near the knees, to assist the weakened quadriceps in extending the knees; then, as the knees were more nearly extended, climbing with the hands upwards, and finally by supporting herself on the back of a chair or the like, extending the trunk upon the thighs, otherwise impossible on account of paralysis or paresis of glutei and erector spineal muscles. On account of the paralysis of the muscles of the back an extreme amount of curvature in the spine was easily manifested.

At present there is paralysis of the pectoralis major latissimus dorsi, serratus magnus, biceps and brachialis anticus of both sides. The muscles of the back are completely or almost completely paralyzed, flexors of both hips and adductors of the thighs are paralyzed, and the glutei and quadriceps paretic. Some other muscles are more or less paretic—the deltoids, rhomboids, supinators, extensors of the right fingers, ham-string muscles and those below the knees. The muscles of the calves are the only ones that are distinctly hypertrophied—the other muscles mentioned are wasted more or less. There are and have been no sensory symptoms, no fibrillary tremors. The knee-jerk is lost

on both sides. The electrical reactions are lost in the paralyzed muscles; in none has the reaction of degeneration been detected.

The principal change in the past nine years is that her gait is worse and that she is now unable to rise or to sit down without the assistance of others. Though unable to rise or sit without assistance she can still walk, though with difficulty. She usually uses a broom to assist her in maintaining an erect position. Her gait is very shuffling, steps very small, and the assistance of most of the muscles of the trunk as well as extremities required to sweep the foot forward. It will be observed when she stands that the right heel does not touch the ground—due to a slight contraction of the hypertrophied calf muscles.

The great weakness in the back and great flexibility of the vertebræ is the most noticeable feature in this case.

When the case was first referred to me by a fellow practitioner he supposed there was disease of the vertebræ. I wish to briefly allude to a patient I saw some years ago in whom this condition was even more marked. This patient, a lady of 47 years, was only referred to me for examination and I did not see her again. I saw a notice of her death in the papers afterwards, doubtless from some other disease. She, also, had the juvenile form of muscular atrophy, beginning fifteen years or more before I saw her. There were paralysis and atrophy of the muscles of the shoulders and upper arms, of the thighs and of the back. The muscles of the back were completely paralyzed, and it was wonderful that she could walk about as freely as she did. Probably she balanced the trunk on the legs so that there really was a slight inclination backwards, and the position was maintained by the contracture of the anterior muscles. But if the trunk were pushed at all forward so that it was not exactly balanced on the legs, though the difference were but a hair's breadth, the head and trunk would fall forward, and she would fall as quickly as though struck by a cannon-ball.

Cases VII. and VIII.—There are two other cases I wished to present to-night, but they live at some distance

from the city and I failed to secure their presence. I will nevertheless briefly refer to them.

They are cases of pseudo-hypertrophic paralysis, occurring in two brothers, 8 and 10 years of age. An uncle, who died of paralysis at 18 years, not improbably had the same disease. In the younger, who never walked well, the disease is the least marked, the weakness being chiefly in the muscles below the knees. The calf muscles are large and somewhat retracted, so that the heels do not touch the ground.

In the boy of ten the trouble was first observed three or four years ago. The muscles of the back, flexors and extensors of the hip and extensors of the knees are quite paretic. The calf muscles are very large. He presents the peculiar manner of rising from the sitting position, so common in this disease, which I have already described.

A few more words on the disease in general. It affects males chiefly. This is especially true of the pseudo-hypertrophic paralysis. Very likely it is only accidental that I have presented to you chiefly females this evening.

Next, as to age.—Pseudo-hypertrophic paralysis begins usually before ten. The two cases reported began, the one, at six or seven, and the other in the first few years of life. The juvenile type of atrophy begins often in early, sometimes in adult life. The two cases I reported began after thirty. The peroneal type is said to begin mostly between ten and twenty. Of my three cases one began about four, the other about ten, the third at twenty-three. The two cases of spinal form I presented began at thirty-two and thirty-six, respectively.

As to heredity.—In none except the cases of pseudo-hypertrophic paralysis was there any history of similar disease in former generations. The two cases of pseudo-hypertrophic paralysis occurred in the same family; also the two cases of the peroneal type; otherwise the cases were isolated ones.

I need add little to the symptomatology already presented. Sensory symptoms are usually slight, if at all manifest, excepting in the peroneal type. The symptoms are almost altogether motor. Wasting is observed

usually proportionate to the degree of paralysis. In many cases there is more or less deformity. Club-foot is common in pseudo-hypertrophic paralysis, not uncommon in the peroneal type. Sometimes there is retraction of the biceps, flexure of the elbow, especially in juvenile atrophy. Marked curvature of the spine is, also, common in pseudo-hypertrophic paralysis and is also found in the other forms.—I have given two illustrations in the juvenile form—and the impaired gait, peculiar manner of rising, etc., belong to the typical picture in many cases.

The course of the disease is usually a very chronic one. In most instances it advances very slowly. Sometimes it appears to remain stationary in the group of muscles first affected, or years may elapse before it attacks other parts. Of the cases presented to you the second of the spinal form of atrophy has made no perceptible progress in the four or five years I have had him under observation. The fourth patient, suffering with the peroneal type, had the disease in his legs at ten years of age, and then fifteen years elapsed before the upper extremities were affected. In the sixth case, with juvenile atrophy, the changes since she was presented to the academy nine years ago have not been very material. It is probably true that as a rule the spinal form of atrophy progresses more rapidly than the juvenile or peroneal type. Pseudo-hypertrophic paralysis often produces complete disability in a comparatively few years, and such patients rarely reach forty years of age.

As to treatment the most that can be suggested is electricity, massage and hypodermics of strychnia. Gowers believes that he has always succeeded in arresting the spinal form of the disease by the latter. But when a disease is so slow in its progress, and in its natural course often arrested for years, we must not be too hasty in attributing the arrest to the treatment instituted.

A CASE OF MUSCULAR ONANISM.

THE SEXUAL ORGASM IN A CHILD CALLED FORTH BY A MUSCULAR EFFORT.

By Dimitry Stefanoski, LL. B., Farosławl, Russia.

A YOUNG friend of mine, 25 years old, of scrupulous sincerity, a little nervous, but of perfectly healthy complexion, has told me the following fact which he has experienced many a time in his childhood. When nine years old he was put in a boarding school for boys. During the gymnastic training it happened to him one day that he climbed a vertical pole several times in succession. With contracted limbs he held himself immobile at the top of the pole, when he suddenly felt a sweet and agreeable sensation in the spine and genital organs. This novel sensation, which he never felt before, attracted his attention, and he tried to produce it again; but it did not repeat itself in spite of his efforts. The following day he had the same orgasm under the same conditions. It produced itself (once or twice a day) whenever the boy was much tired by the climbing and when he was at the end of his strength. Since this gave him a certain pleasure, he repeated the experiment rather often. It was before all essential that the muscles of the arms were tense and contracted by the effort of supporting the body. Accordingly the phenomenon also appeared during exercise performed on the trapeze by the arms alone, without any taking part of the legs. The orgasm *never was accompanied* by an emission of the penis or by an ejaculation of sperma or any other liquid. On the contrary, the penis remained perfectly quiet, as ordinarily. Neither had the friction during the climbing any influence on the production of the phenomenon. It is to be remarked

that the sensation was diffused and vague in character. The orgasm consisted of one or two consecutive shocks, accompanied by a voluptuous chill *in the spine* and *at the root* of the penis. After some months the phenomenon ceased to appear, and *never returned* afterwards. The boy was curious to get the explanation of that strange sensation and asked his parents for it, but he was so *naïve* that he could not well explain and describe what he had experienced, and so his question was not understood. Not until two or three years later, when he had learned to masturbate, he felt *the same sensation* again, much more intense and voluptuous, and he immediately recognized his old acquaintance. I have to add that the young man enjoys full health now, and that there never has been anything abnormal about his sexual functions. Seminal emissions are rare with him. They happen once in a while, at night, but even during the most exhausting gymnastic exercises *he never experienced* the erotic spasm that manifested itself in so strange a manner in his childhood.

PATHOLOGY OF ARTISTS.

By Lucien Arreat, Paris, France.

FROM a psychological stand-point the special sense disorders affecting artists are chiefly of interest.

No one is astonished to see cripples and humpbacks become artists. It is much more curious, however, to meet with deaf-mutes. Such an infirmity hardly leads to the intimate association of its victim with his fellows. Deaf-mutes have shown, when instructed, that they are not so much disinherited by nature as by society. Spain had a deaf-mute artist, Juan Fernandez Navarette, surnamed "The mute." Deprived of hearing when three years old, in consequence of infantile convulsions, he soon lost his speech. His father remarked his powers of drawing, and confided him to the care of a monk, who instructed the boy. Cean Bermudez adds that Navarette,* a painter of talent, made hlmself clearly understood by signs.

A French deaf-mute sculptor, Deseine, offered the National Assembly a bust of Mirabeau. He sent to the *salons* of 1791 and 1793, various works, among which was a bust of the Abbè de l'Epée, who had been his instructor. Three deaf-mute painters and five deaf-mute sculptors, exhibited at the 1889 *salon:* J. G. Ferry, J. L. Lousteau, A. Berton, A. Colas, R. P. Princeteau. The "Arrival at the Press," of the last mentioned, excited much favorable comment.†

The deaf-mute, despite his evidently grave cerebral lesion, lacks nothing which will prevent him acquiring

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Note.—Translated from "Psychologie des Peintres," by Jas. G. Kiernan, M. D.

* It is noticeable he was not a congenital case, hence not a victim of degeneracy.

† An artist has recently cited, in this connection, the cases of the miniature-makers and portrait painters, Martin who studied and painted at Paris. These deaf-mute twins so resembled each other in face and figure that they were frequently confounded. Moreover their style was so closely akin, that each worked alternately at their portrait or design.

general ideas when education comes to his aid.* In a much greater degree may he possess all the visual and motor images, which are necessary in the arts of design, and all the ideas which may be expressed in lines and colors.

Infirmities of sight have not spared painters. Strabismus has not been unfrequently present. Carel VanMander cites Corneille Molenaer, nicknamed "Squinty Neil." Barbieri owed to this defect his art surname, "il Guercino." H. Flandrin was exempted from military service because of squint. An attempt to remedy this defect in his right eye, extinguished it and left him but his left, which had become presbyopic. Myopia is frequent among painters, owing to their being born in families where hereditary conditions favor its development. Myopia does not however exclude good visual memory, and its influence is much less than would at first sight appear. The myope sees vaguely and indefinitely; certainly an inconvenience, but in return the near objects, mass themselves in their general plan and distracting details mingle so that herein is an advantage. Moreover, the myopic painter, when this defect is not too excessive, can correct its bad results easily, whether by suitable glasses or an acquired rectification, and this infirmity proves a simple obstacle. Who would believe on seeing Quentin La Tour's fine pastel of Mme. de Pompadour, at the Louvre, that the artist had "short and feeble sight." This he has described in detail, himself, in a letter to the Marquis de Marigney.†

Delicate men are wounded by a picture taken as near at hand as twenty-five feet. What an embarrassment therefore for a short and feeble sight forced to be at two or three feet of the model; to notice near what can be best done afar. One must put himself into my place to appreciate the struggles I have made to put a face and head together with due regard for proportion. The angles are so short that the model cannot look with both eyes at the eye of the painter. They go and come without ever being together. Their perfect accord is absolutely necessary to secure the life and soul of a portrait.

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* At this point the fact may be mentioned that Reynolds and Goya became deaf before old age.

† *Gazette des Beaux-Arts*, page 31.

The obstacle is not so great for the minor types: they, however, suffer also. Dr. Jorissenne, of Liege, has observed the case of Liege, a Belgian artist, almost in his seventies, who had worn glasses from early youth. His myopia of nine dioptrics, equally intense in both eyes, determined, in 1888, a left retinal detachment, which put an end to his artistic career. Precision and detail were always qualities of his work, yet to them the totality was not sacrificed. Perhaps it may be assumed with Dr. Jorissenne that clearness furnished by the glasses serves to correct the defects of the myope, but there is also a desire present to conquer an obstacle. This last reason seems most essential. It should not be forgotten that the artist just mentioned was not in the first rank. Phillipoteaux was myopic and had a tendency to minute detail. He was undeniably an artist, but of the second rank; and the same is true of Benjamin Constant. Even though myopia have an influence on the manner, it is certainly an exaggerated view to hold with Liebreich* that it exerts an influence even on the choice a myope makes of a subject. Myopes, he claims, make little tableaux remarkable for their delicacy of touch. To this the objection can be raised that neither all myopes do this, nor do those myopes who do, always make such tableaux, nor is it confined to myopes. It is no more true than the claim that the handwriting is also little when this graphological characteristic is far from being either exclusive or constant. Furthermore, the myope whose pen is fine has no reason to change his handwriting, but the painter is compelled to correct defects resultant on myopia.

Hypermetropia, according to Liebreich, is destitute of influence on art except as it affects the powers of application. Clear vision is in both cases alone a question of distance.

The graver defects are such as may falsify perception,

* "Defects of Vision in Artists"—Turner and Mulready (*Revue Scientifique*, August, 1872).

whether it be of lines or colors, as for example, astigmatism. Almost all eyes are astigmatic. When this astigmatism reaches the pathological point, proper glasses will correct it. Liebreich has reported the case of a landscapist and of a portrait painter, in whom the refraction of the vertical meridian differed from that of the horizontal meridian. For this reason their sight was normal for the vertical lines, but somewhat affected with myopia for horizontal. This was not destitute of influence on the landscapist. The first outline of his painting (which usually represented water with waves mildly agitated) was not so faithful as the next and last plan. There were little strokes of the pencil given horizontally of different colors, which did not seem to appertain to water. An astigmatic glass caused this to disappear, and the painting was seen as the artist saw it when working. The portrait painter was much esteemed in Paris, but his work became bad. In his portraits the neck and facial oval appeared elongated and all the details were deformed in like manner. To the defect of clearness of vision for horizontal lines was added presbyopia for vertical lines.

Liebreich claims that adiminution of crystalline transparency will result in making the light shine by vertical rays. Certain striking defects in the last works of Turner are due to this visual trouble. The excess of blue and violet in Mulready's paintings was explicable by the yellowing of the crystalline resultant on age. Liebreich claims that a painter as his crystalline lens becomes yellow paints bluer. He can still see nature normally, but in his pictures he sees yellow, necessarily paints blue. If Mulready's picture be looked at through yellow glasses, their abnormal character disappears.

Alberlotti* has put this last claim of Liebreich to the test and failed to correct the defects of Mulready by yellow glasses. A certain shade of violet-blue in "The

* "Osservatione sopra Depente perril evare Atterozione nella Funzione Visive deglii Artisti."—Modena, 1889. He went to London for especial study of Mulready and Turner.

Mother Teaching Her Son" changed in degree, but did not disappear.

Turner's case is more puzzling, and Alberlotti has sought to unravel it. He has arranged the paintings and sketches of Turner in three categories, noting for each the age of the artist. His results show that the paintings destitute of peculiarities and mannerisms belong to the outset of the artist's career when he patiently imitated the effects and manner of Claude Lorraine. That peculiarities and mannerisms did not appear until his thirty-eighth year, when he had conquered his place. Ten years later peculiarities and mannerisms involved all his work. His natural defects were then exaggerated. He battled with the sun and did not measure his aim by his means. He lost himself when he escaped from the balancing influence of Lorraine. An alteration in visual function will not explain this evolution. It corresponds more clearly to the slow work of mental deterioration, which will be shown later on to be as manifest in the life as in the works of Turner.

There has been much dispute over the work of Fontanesi, whom DuBois-Reymond declared to be the victim of an eye disorder. Alberlotti has destroyed this view for Fontanesi, as for Turner, on showing that the Turin artist was an exaggerated or imprudent imitator of Corot. The ophthalmological *savant*, of Modena, has a finer sense of art than Liebreich, and his conclusions are those which I shall adopt. Perhaps visual defects do exert much influence on art, but their influence has not been decidedly demonstrated. The changes of age are the result rather of general defect than a local functional disorder. Old artists do not paint blue or violet but yellow or red.

Evil-wishing critics said of Corot, "There is something in his eye," But he really painted an aspect of nature in which he felt pleasure. The why of his preference has escaped us. It was a secret between his heart and his eyes, of which the poet himself knew not. New truths only become singular in the hands of the imitator.

Permit me to pass now to the irregulars, the invalids, the degenerate, the insane. The terms insanity and degeneracy have been much abused of late. Lombroso, in a recent work,* attempts to show that creative inspiration is the equivalent, at least in certain minds, of epileptic psychic phenomena. All is in all; the lunatic exists in the sage and unconscious cerebration which plays such a great part in intellectual work, becomes comparable to the neuroses of which the loss of consciousness is an essential characteristic. Verbal analogy works these miracles, but it still leaves me incredulous, and I shall not attempt to assimilate genius with insanity, while cheerfully admitting that one may lead to the other and that remarkable powers have often appeared in a family at the onset of its degeneracy.

Permit me to leave theory and pass to facts. Artists are healthy for the most part and offer but professional peculiarities which are permissible to all men. They occupy therefore a chamber in that sad prison in which Lombroso has enclosed so many people.

Leonordo da Vinci and Michael Angelo were not destitute of defects. The biography of Leonordo leaves no doubt as to his instability. He is at his native place, Florence, from 1480 to 1483; then he goes to Milan, to secure the favor of Ludovici Sforza—a queer protector, where he remains eighteen or twenty years. He returns to Florence and remains from 1500 to 1506. Then he goes to Milan, under Louis XII. In 1511 he is at Rome; then he wanders to Milan, which is swayed by Francis I., whom he follows to France in 1516. He wanders in his life and his works are equally scattered.

I shall limit myself to the period during and after the time when Michael Angelo deserted his post in Florence, which, in 1529, was besieged by the Imperialists. He wrote to Della Porta:

> How did I quit Florence? It is a problem I can't solve. A man came to conduct me to the bastion. There we examined everything and

* ALIENIST AND NEUROLOGIST, 1891.

a voice murmured in my ear: "There is nothing here for those to do who wish to save life and honor." Whether God or the Devil impelled me I cannot tell.

Here he speaks of a reality and not a dream. But had he such a clear impression in a waking state as to see and touch this man who took him? Clearly he suffered from a nervous over excitation which sometimes produces hallucinations in sane people. Da Vinci and Michael Angelo are on the *sane* side of the border line. They are "regulars," but do not belong to the "tranquil" type and this is the case with many painters.

Habitual violence is not an evidence of mental balance. But all the violent do not belong to the domain of pathology; hardly can this be said in the case of an Herrera, Rosso or Caravage. Herrera, the elder, was a somber genius, a furious artist, at once brusque and violent. He married, but was a troublesome personage in his family. He could not bear too near him children, disciples or friends. At the end (he lived eighty years) he found himself abandoned by all and betrayed. His son, Herrera the Younger, was forced to take his dues stealthily to go to Italy. Obstinate and vindictive Rosso drew on himself fatal quarrels. He accused his friend Pellegrino of having robbed him, and suffered him to be tortured. Pellegrino's innocence proven, Rosso believed he could expiate his fault in suicide by poison. Caravage could not but be narrowly allied to the man of his century, who appears in the pages of Benvenuto Cellini or Shakespere. Other evidences of a badly balanced mind, disorderly in habit, neglectful in person, unskilful in business, incapable of suitableness to its surroundings, appear but infrequently in the higher type of artists. These are often found in spendthrifts, who live from hand-to-mouth, to spend in one day the income from a picture, and count on the continuance of this income to-morrow. They resemble those heroes of Musset, to whom life without debt is inconceivable. Diderot wrote anent Florentine Servaudone (who was at once artist, architect and decorator):

Servaudone is a man whom the wealth of Peru would never enrich, king and nation have abandoned the hope of saving him from poverty. Such conduct evinces a serious inattention to important details, if it does not prove feeble morals. Prejudice favors the prodigal rather than the miser. Generosity is rarely reproached, even when imprudent. Philistine sagacity is not exacted from artists. Foresight, however, cannot injure talent, even though its absence may aid it.

Melancholy is a common feature of genius. It often results from bad physiological equilibrium, albeit it is easily aggravated by nervous over-excitement, such as is an inseparable companion of an artist's life. Artists afford instances of excessive gaiety or depression. Some can be charged with abnormality, like Ponomo, who according to Vasari, was a decided neuropath. He was a fantastic savage, full of strange fears. He had such a dread of death that he refused to talk of it, and fled funerals like a plague. He lived alone and clad himself like a beggar. His life offered strange contrasts of extraordinary success and miserable failure. Most artists are victims of somatic disease, like Géricault and Delacroix. Géricault was tuberculous. He had an abscess in his side, after a fall from a horse, which resulted in vertebral caries because of his imprudence, from which he died after months of suffering. He is depicted as often sad, somber, reserved, seeking solitude, but easily led to gaiety, and then feverishly happy and violent in character, as well as bashful and sympathetic; blushing at the slightest emotion. Delacroix was anæmic, bilious, neurotic, frequently the victim of laryngitis, which threatened his life. The year before death he suffered from cystitis. He had frequent gloomy spells. He writes:

In insomnia, in sickness, in solitude, when the end of all nakedly presents itself, it requires courage not to go before the phantom and embrace the skeleton.

These different traits of character of artists are not astonishing in such exceptional natures. They are effects of nervous erethism and infeverishing passions. Artists are the most feminine of men. The reputation they have formerly gained in this particular does not vary

much to-day. Balzac, the world artist of his time, writes:

> There are faces sawed with originality, but broken, toilworn, sinuous. Exhausted by a need of producing, overstrained by fantasy, eaten by genius, inflamed by pleasure, Parisian artists try to regain gaps caused by indolence, to secure conciliation of the world, glory, cash and art. The artist at his outset is a slave. His needs grow, his debts grow and his debts demand his nights. After work, pleasure commands. Concurrence, rivalry, calumny, alike assassinate genius. Some desperately plunge into an abyss of vice; others die young. Few of these faces, primitively sublime, remain beautiful. An artist's face is always exorbitant.

This, not always true nor true of all, but Balzac paints vividly and sees well what he says. A destructive power is often attached to genius. The hereditarily fatal tendencies are the very ones, but too often, which have led to an artistic career. An excellently illustrative instance was the following, of a young Belgian: Three years ago, there lived at Brussels, at a little below the age of twenty-six, an artist of great prospects. L., the second son of a family of whose five children art had taken three. The parents were a badly matched couple. The father was a positive, exalted character, an ardent business man, greedy of wealth; of lively, brilliant mind, satirizing politics, religion and poetical extravagance. The mother was fervent, Catholic, supple and sentimental; inconsiderate in her weakness, ignorant of economy and not less haughty than her husband, but permeated with exalted visions and dreams of fame for her children. An explosion of artistic sentiments resulted. These beings, so contradictorily endowed, gave birth to a sculptor, an artist and *litterateur*, all permeated by morbid elements which several generations had transmitted to them. L. was tuberculous and suffered several years from hæmoptisis. He was blonde, with limpid eyes, of a mixed temperament with nervous predominance, feeble, resistant of alcohol, sensitive to noise, of unequal and violent humor, generous, warlike, redressor of wrong, of docile memory, abundant imagination, prompt in judgment, sometimes discouraged and distracted by fervor of composition, always exuberant

and mobile, in painting a colorist. Such are the lines of the portrait. At twenty, he said, anent the "Antiope of Corregio," "It is very fine, but it does not worry me." The shiver was what he sought. Tranquil art does not attract these unstable, almost irregular natures.

Huges van der Goes affords the first of insanity of an interesting type of insanity. He enjoyed an excellent situation. The great Archduke Maximilian even visited him at the Convent of Rouge-Cloitre, to which he had retired. The chronicle of the Convent states that once in his return from Cologne, he was seized by insanity. The prior tried to appease him with music, as David calmed Saul. "He is frenetic," said some; "Possessed," exclaimed others. He did not try to injure anyone. "This does not happen," says the pious chronicler, "with either the possessed or the frenetic. God alone knows what ailed him."

Notice this gross classification based on offensive furor or diabolic origin of certain psychoses. The chronicler perceives its defects and endeavors to outline all the causes of the state he depicts. "Huges," he remarks, "was strongly delivered to passions of the soul; inquietude, sadness and fear. He was preoccupied to excess to know how he should finish works he begun." These alleged causes could easily be the effects of malign predisposition. "Huges, he adds, "drank wine with the guests he was allowed to receive." This fifteenth century monk clearly appreciated the evil effects of alcohol, without being able to recognize feeble resistance to this poison as an element of degeneracy.

Another case, cited by Carl Van Mander, is that of Charles d'Ypres. This artist was of somber humor. His friends joked him one evening at banquet for having a pretty wife but no children, whereupon he fatally stabbed himself with a table-knife.

In Italy there may be recalled without discussion the badly-described case of Spinello, who suffered from visual and aural hallucinations; of Cargiagi and Cardi. Francis,

son of James Bassano, had persecutory delusions. He imagined he was about to be arrested and leaped from the window; of Manzoni, called John de St. Jean, who charged with a fine commission by Lorenzo, the Magnificent, became disgusted with it and neglected it ere it was half completed; and of Cavedone. Francis Lemoine, in France, in the seventeenth century, lost his mind, according to Dargenville, from overstrain in painting in Versailles. "Everybody was suspected by him and he believed that archers were pursuing him everywhere. Hearing a friend knock at his door, who had arranged to visit the country with him, he believed it was the archers coming to arrest him. Overcome by this idea, he became frenzied and hid himself in his room, where he stabbed himself nine times and fell dead. He had always been suspicious, irritable and satirical."

There has been much dispute over the mental state of Turner.* I am of opinion that he was illy balanced mentally.† His hereditary taint seems decidedly well marked. There were lines of decidedly convergent heredity on both sides. He was of less than middle height. He had a large nose, grayish blue eyes hidden within the lids, and was of sallow complexion. He showed a precocious tendency to art, but his intelligence was mediocre. His artistic talent was unequal. His genius revealed itself only by flashes. He pursued an impossible ideal. He lived poorly, even when enormously rich. He left three and a half millions, but his London home was far from being either tidy or comfortable. His abstemiousness was extreme. He was intensely miserly, unsociable and suspicious. He disbelieved the sincerity of any sympathy. He finally abandoned his house to live in a miserably furnished room in Chelsea, where he died, December 10, 1851. He had served under a false name and took his meals in neighboring taverns. When ill he refused medical advice and died without proper nursing.

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* See ALIENIST AND NEUROLOGIST, April, 1882.

† Thornburg's "Life of J. M. W. Turner."

Edward Dayes, an English aquerelist, committed suicide. Wilkie had errabund tendencies and was mentally irregular. Robust, who committed suicide, loved pleasure early and became affected with rheumatism. Married well and master of a fine fortune, he lived in the strangest possible way. He spent all his leisure in playing checkers with the *habitues* of obscure *cafés*. Domestic chagrin, the menacing success of a new school, bitter *critiques* decided him to commit suicide when he could no longer find solace in these pleasures. He was found drowned on the banks of the Seine, near Sevres. He had written on a paper carefully placed in his hat, "Tired of life (he was sixty-four) and betrayed by the last faculties which rendered it supportable," he had "determined to rid himself of it."

Leopold Robert was the elder of two brothers and two sisters. His mother, naturally of feeble health, died of chlorosis. Quick and petulant, he was attacked by a nervous fever at college, which has been ascribed to overwork. He was little, grizzled, of a sad aspect, clownish and undignified in manner, timid and reserved. Everything became painful to him. He was very ingenious in forging torments and anguish for himself. The suicide of his brother in consequence of an unfortunate marriage plunged him deeper into melancholy. He wrote to Marcotte, "I cannot tell what impels me to reason thus; it is, I believe, a fear, not of a danger present, but of one about to happen." He replied on himself and analyzed his mental state. He did not ignore the fact that "this unfortunate tendency attacks whole families. Success cannot cure it." "What signifies fame?" said he to his brother, Aurelius, the evening of his death, "everything leaves still that frightful abyss, the heart." An impossible love in high Roman society gave him new food for melancholy. The thought of self-destruction flashed through his mind and finally conquered him. Although his fervent piety caused him to detest suicide, it could not conquer. He cut his throat with a razor, at

Venice, March 10, 1835, just a decade after the suicide of his brother, and in the midst of the triumph brought him by his "Fishers."

Tassaert was the last representative of a line of painters, sculptors and engravers of the same name, originating at Anvers and continuing uninterruptedly from the beginning of the eighteenth century. His father, born at Paris, where he was a publisher and engraver, married a native of Berlin. In Tassaert the two races mingled, but did not mix. In a biographical note he has recognized this fact:

> I come of a triple strain, Dutch, German and French. Fortune smiled on me in love, but my indolence let it escape. As engraver, lithographer and designer, I gain much money which spends itself. Love enriches me, but art impoverishes me. At thirty years, I know neither French nor Latin. The love of being a poet taught me Latin badly, and French hardly at all. Poor, I found consolation in music, poetry, etc.

Born an artist, he was a skilful executor. His musical talent was limited to singing in falsetto and twanging a guitar. As a poet his versification was pitiable. He was a gourmand and sensual. In 1863, at the age of sixty, he ceased to paint, and lived on the fame of his last ten years in an obscure lodging, almost blind, blaspheming art, denying his name and, tired of life, he finally committed suicide, which he had eulogized in verse and depicted by his brush, as the "Supreme Liberator."

It is rare that imprudence or negligence has not led to these distresses of mind and body, even when the man is not of melancholy type. Misery alone produces suicide. Leon Bonvin, the brother of Francis Bonvin, was like him; of profoundly artistic nature, *naïve* and sincere. He continued to keep the inn his father (an old soldier) had taken at Vaugirand, and found a way to become an excellent artist and respectable musician. In 1861, he married; trouble began, misery followed, and he hanged himself in January, 1866. His brother, whom misery spared, died at seventy.

The suicide of Marchal startled Paris, but his genius

was exhausted and he sold no more paintings. The night of his suicide, an acquaintance met him in a Montmartre *café* and left him without divining his purpose.*

The last cases of insanity in artists which have caused much discussion, are those of Gill and Jules Hereau. Alphonse Allais† says:

I remember dining with Jules Hereau, Gill and Sapeck. During the dinner (which took place near the place of execution of the Communists), Hereau spoke of nothing but the Versaillists who were scouting around his house. They prevented him from working, from selling his works, and he heard them shoot at him at night. The following winter he threw himself under a train. Some years later Gill also became insane.

Gill designed and painted in his lucid periods.‡ Leopold Robert painted excellently during some of the most troubled hours of his mental life, and others have done likewise. What disappears first in insanity is the power of special inhibition and general control. The mind is free to impulses born of disease. The artist loses judgment of images relative to his art which are then offered to him. Disorder begins in his ideas of painting, and is shown in his choice of subjects and defects of harmony in composition. Errors in design come first, technical memory long survives—that is, the mechanical association of visual and motor images. Though the professional memory of artists be a thing acquired and improved, yet it has its roots in the association of images, composed of innate tendencies and formed in specially gifted brains.

Artists have neither immunity from disease nor special tendencies thereto. Of twenty-five French artisis taken at random one was gouty, two had a calculous diathesis, two were asthmatic, nine had pulmonic disease tendencies, three were affected with senile disorders§ and seven were apoplectic.‖

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* Suicide has been found by Morselli to be greatest in literary men and scientists, and least in artists.

† *Chat Noir*, Oct. 12, 1889.

‡ See ALIENIST AND NEUROLOGIST, April, 1892.

§ Poussin suffered from general *malaise*. At fifty-four, he complained of feeble vision and senile tremor.

‖ Jouvenet, at seventy; Parrocel, at fifty-six; Largilhere, at forty-eight; Oudry, at sixty-nine; David, at seventy-two; Paul Heuel, at sixty-nine; and Th. Rousseau, at fifty-five.

The duration of life of artists is of interest, but exact details are wanting. Of 143 Italian painters in the seventeenth and eighteenth centuries, the average life was 61.3; 233 Belgian and Dutch painters average 61.8; 133 French painters, born between 1600 and 1800, average 65; 11 Spanish painters, born in the same period, average 62.8; 16 English painters average 65; 44 French painters, born since 1800, average 59.5, but several living instances of longevity are not included herein. The fact is obvious that 580 painters, taken in about six centuries, had an average age of 62.5, which far exceeds the average age. The musicians show a still higher average: 44 Italians, since 1600, average 67; 24 Germans, 63.1; 37 French, 61.9. The total average for the 105 is 64.3. These figures may be taken for what they are worth. They evince, at least, that mental superiority is not attended necessarily by mental disequilibrium. The mental defects of genius are too often the result of abuse, not use. Men of genius are not more subject to insanity, *per se*, than the mediocre, and there is no more reason for making the genius a pathological monster than there is for the too common tendency to make him a physiological one. Genius puts in action faculties more or less common to all men.

Relation of Alcohol to the Inhibitions.

By Harold N. Moyer, M. D., Chicago,

Neurologist to the Central Free Dispensary, Adjunct Professor of Medicine, Rush Medical College.

THERE is a medico-legal relation of the drink habit to which attention has not been sufficiently called.

It is an old saying which strikes as high an average as most old saws, that in wine there is truth. So far as I am aware this phase of the action of alcohol has never been definitely studied, though from this point of view much valuable light is thrown upon the legal relations of inebriety.

Regarding man in an evolutionary sense, we find that his legal relations are very largely imposed inhibitions, that have been added with the growing complexity of civilization. If there were but one man in the world, or if one individual were separated completely from his fellow-men, the alcohol habit could have no legal relations. Whether such an individual were drunk or sober would make little difference except to himself, and the resultant acts of intoxication could have no legal significance. When we aggregate individuals into small communities, and these again into still larger bodies, it becomes necessary to define their relations one to the other, and to lay down certain rules and restrictions upon conduct. So it happens that every highly civilized society possesses a large number of laws both written and unwritten. We scarcely realize how much we are under the domain of law. I do not now refer alone to statute or the common law or to city ordinances, but the law of custom. How very little variation is needed in one's conduct in a street-car, drawing-room, railroad coach or other public place, before he is an object of

attention and remark. The laws of the Medes and Persians were no more fixed than our social customs. Of course they vary with the place, time and people; but whenever found they are a fairly fixed quantity. Perhaps there is a wide difference in the social customs of a frontier town in the West and a Parisian boulevard, but the law of social usage governs quite as arbitrarily, and generally somewhat more efficiently in the former than the latter.

That the use of alcohol tends to suppress the acquired inhibitions is apparent to even the most superficial observer. All those finer restraints of customs, social positions, family relations and business associations seem to fall away, and the individual displays his natural instincts and predispositions.

It is this peculiar effect of alcohol that gives it such extraordinary interest in a medico-legal sense. In mental disease it is a well-known fact that there is only a partial loss of self-control, except in those cases of dementia and imbecility where the mental power is almost wholly effaced. Asylums for the insane are now organized directly with a view of stimulating and up-building the self-control of their inmates. While punishments are never resorted to, yet the very classification in vogue in these places presupposes that there shall be wards occupied by untidy, demented, noisy or violent patients, so that self-control on the part of a patient will soon secure a transfer to better quarters with more agreeable surroundings. Indeed, the patient soon comes to understand that his discharge depends wholly upon his ability to control his wayward thoughts and co-ordinate his conduct. To this ever present discipline and stimulus can we attribute the success of the modern hospital treatment of insanity. In this way a patient may acquire sufficient self-control to resume his residence in the world at large, even where there has been only partial recovery, and his delusions still remain. By training there have come acquired inhibitions. How frequent

an experience it is with hospital authorities to send a patient to their friends when they are not cured, and have them brought back in a few days, the delusions again dominant, and the conduct thoroughly irrational. The acquired inhibitions of asylum residence have fallen away at the first touch of the outer world.

If we examine the action of alcohol, we find how it brings out dormant or obscure phases of character. In other words the acquired inhibitions are lessened, and the natural propensities come to the surface. The drunken man is quarrelsome, or inclined to commit an assault, is less heedful in his conduct, not only towards himself, but towards others. In just the same manner aberrant mentality comes to the surface when acquired inhibitions have been removed by the use of alcohol.

The medico-legal relations of alcoholic intoxication have been formulated wholly upon the effect which alcohol has upon a healthy brain. The consequences of alcoholic abuse in cases of brain disease have been almost overlooked. Very serious crimes are committed by persons who are only partially insane, perhaps not insane at all in the legal sense, but they occupy that debatable ground, where imperative conception, fixed ideas, perhaps delusions of persecution are found, but without marked emotional disturbance. These persons often get along fairly well. A man may live with a wife whom he believes to have committed adultery before his very eyes, and in the most shameless manner. As long as he is able to retain himself all goes well, but on some occasion there is an over indulgence in liquor, the inhibitions are lessened the delusion comes to the surface, and one or both of the supposed guilty parties are slain. It is apparent in a case of this kind we have an exceedingly complicated question from the stand-point of the medical jurist. The crime is really the resultant of two factors, the alcohol and insanity, neither of which alone would would have produced it, and to which different conditions the law has applied separate measures of accountability.

Ordinarily the rule laid down in our courts is that acute alcoholic intoxication is no excuse for crime, though it may plead in mitigation of motive where degree of offense is recognized. The more acute conditions, such as *mania a potu*, are to be governed by the same rule, on the ground that a man by the voluntary use of liquor has brought on a state for which he was responsible, and which renders him punishable for offenses committed while in that condition. It is apparent in this rule that the crime for which the person is punished is intoxication and not that for which he is upon trial. A third rule is that where the prolonged ingestion of alcohol has set up a more or less permanent chronic form of mental disease the jury are to judge the question of mental capacity in the same way as they would had the mental trouble originated from any other cause. It is only necessary to state these propositions in order to expose their inherent inconsistencies. Wherein acute alcoholic intoxication and the resultant delirium is "voluntary" in a different sense from that of the chronic variety is a distinction we may well leave to our legal friends.

It will be seen how difficult it is to apply these criteria to those cases in which alcoholism complicates a psychosis. Accordingly as we attribute the crime to the misuse of alcohol, the person is to be considered responsible. If on the contrary we look solely upon the mental defect the person is to be regarded as insane and not punishable.

For some years the writer was in charge of the Temporary Detention Hospital in the city of Chicago. The patients were largely recruited from the streets and police stations. Anyone who seemed to be laboring under mental aberration was brought to the hospital, where the case was investigated. Shortly after this institution came under my charge I was struck with the large number of admissions that were discharged within a day or two. At first these cases

were all classed as alcoholic, but a careful study of them after their apparent recovery soon convinced me that they were far from normal, the most of them betraying considerable impairment of the memory, with more or less confusion of ideas. A few of them were found to have fixed delusions, which, under ordinary circumstances, they were able to conceal, but not when under the influence of liquor. An investigation into the antecedents of some of these patients showed that a few of them had been inmates of asylums, suffering from well-marked psychoses, but had so far recovered that they were liberated. One case in particular, a woman, was brought to the hospital four times within a month, having been picked up by the police in different sections of the city. She presented each time marked confusion, was incoherent, noisy and extravagant in conduct. Within a few hours these symptoms subsided, and she was apparently perfectly rational. Suspecting that alcohol was the cause of her trouble a few ounces of whiskey were given to her in the hospital. This was followed by the same train of symptoms. After a little study we could easily distinguish this class of cases from those of delirium tremens. There was usually an absence of the distressing hallucinations, temperature was normal, sleep would come soon, and a few hours repose would restore them to a condition in which they could be allowed to leave the hospital. These cases constitute a class that in our large cities are frequently in asylums for inebriates, insane or houses of correction—insanity, alcoholism and petty criminality are so blended that it is a matter of chance as to where they are sent, and some are found who have been successively in these different institutions.

I am convinced from a careful study of a very considerable number of cases, that alcoholism complicates many psychoses in a peculiar manner, and one not generally referred to in our works on psychiatry and medical jurisprudence. We shall not find in these

cases the clinical picture of alcoholic insanity, but usually the terminal states of other psychoses, or more or less undeveloped forms of paranoia. We should carefully analyze all such cases, lest we may overlook a psychosis in which alcohol is but a complicating and accidental factor.

ON MIRROR-WRITING.*

By W. W. IRELAND, M. D., Scotland.

[Abstracted by the Editor.]

BUCHWALD and Erlenmeyer† have directed attention to what they call spiegelschrift, or mirror-writing, because, like the impression of a letter taken upon blotting-paper, it can be most easily read by those not used to it in a mirror, where the reflected image takes the appearance of ordinary writing. This inversion of our written characters is sometimes done as a species of puzzle for amusement or curiosity; but I have met with several instances where it was seriously produced, apparently as an imitation of ordinary writing.

E. M. was an imbecile girl, paralyzed on the right side from birth or early infancy. She came under my care when seven years of age, and was subject to occasional attacks of epilepsy or epileptic vertigo. She was active in disposition, mirthful, and somewhat mischievous. When she was about eleven years of age, on the governess commencing to teach her to write, which was done by getting her to copy a lithographed line at the top of the page, the girl formed the letters with the left hand from right to left in mirror-writing.

L. N., aged fourteen, a genetous imbecile girl of con-

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*A Chapter from "The Blot Upon the Brain." Illustration omitted. This chapter is given here to call attention to this chirographic phenomenon in a peculiar class of cases such as Dr. Ireland is especially familiar with.

† "Die Schrift, Grundzüge ihrer Physiologie und Pathologie," von Dr. Albrecht Erlenmeyer. Stuttgart, 1879.

See also "On Mirror-Writing and its Relation to Left-Handedness and Cerebral Disease," by William W. Ireland. *Brain*, vol. iv., page 361.

"Peretti ueber Spiegelschrift," *Berliner Klinische Wochenschrift*, 31 Juli, 1882.

"Changes in Handwriting in Relation to Pathology," by A. Bianchi, M. D., translated by Joseph Workman, M. D.—THE ALIENIST AND NEUROLOGIST, October, 1883. Dr Samuel Wilks seem to be the first living pathologist who refers to Mirror-Writing. See his "Notes on the History of the Physiology of the Nervous System," "*Guy's Hospital Reports*," vol. xxiv.

siderably greater intelligence than the first case, was left-handed. She began to write in mirror-writing with her left hand, but was interdicted, and in a few months gave it entirely up. She was gradually broken from using the left hand, and could sew pretty well with the right. When I asked her to give me a specimen of the mirror-writing, she could only do it with her left hand. Apparently she can write from right to left with about as much ease as from left to right, but cannot now read it so well. Though she speaks freely on simple subjects, she cannot make any explanation as to the directions which she gives to her writing with either hand; but one cannot expect any analysis of a mental process or complex action from an imbecile girl.

There were two idiot boys in the school who formed pot-hooks from right to left, being left-handed, so that in time they would teach themselves mirror-writing. I wrote to several superintendents of Training Schools for Idiots, but none could give me any information on the subject save Mr. Millard, Superintendent of the Eastern Counties Asyum at Colchester, who sent the description of an imbecile boy about twelve who "wrote backwards with his left hand so that it is only legible by turning the paper round or by a mirror." Since my paper in *Brain* appeared, I have found that mirror-writing is not uncommon amongst left-handed children in schools for imbeciles; but that the teachers who were anxious to break the patients from writing with their left hands paid no attention to it, regarding it simply as a bad custom.

A friend of mine who had seen the mirror-writing of the imbecile girl was struck at finding the same inversion in one of his own pupils. He was left-handed, and as teachers think it their duty to compel left-handed children to use their right, the boy finding this difficult, when the teacher was not looking, secretly wrote with his left hand. The result was a page of mirror-writing, which the boy apparently thought was a copy of the lithograph.

He was a thin and pale boy of thirteen, who, out of school used the left hand. The teacher described him as rather intelligent, and getting on well with his lessons. On being requested to copy a passage out of a book in mirror-writing, he soon returned with it fairly copied. I asked him, "Did you write this with your right or your left hand?" At which he said with some hesitation, that he did it with his right. I told him nobody would be angry with him; when he confessed that he had written it with his left hand, as we had asked him for a specimen of the writing, and he could only do it with the left hand. He could read the mirror-writing fluently. It is perplexing that anyone should in copying a line lithographed at the top of the page imagine he was correctly reproducing it when he was writing it in an inverse direction. For example, if any one were told that he must write the word "wonderful" from right to left, he would commence with the l, and trace the letters backwards; while these two pupils not only wrote from right to left, but they inverted the image of the word, so that while the w of the copy was on the left, in their imitation it appeared on the right, as if they had scratched on a pane of glass, and turned it and read it on the opposite side. This, of course, is different from ordinary handwriting from left to right, such as was practiced by the Hebrews and Etruscans, and in the modern Arabic letters throughout the Mohammedan world. In their manuscripts or lithographs the lines begin at the free side of the page and run to the left; but then the Arabic letters are naturally adapted to be traced in this way, and indeed it would be difficult to form them in any other. Familiar with this writing by my residence in India, I am of opinion that if it is more difficult to read than the English characters, this is not because it runs from right to left, but owing to the suppression or uncertain quantity of vowels, the writing is so little phonetic that it needs a knowledge of the language ere one can read a Hindustani or Arabic book. A clerk

cannot copy Arabic writing so quickly as English, but this is owing to the nature of the characters, which are more numerous, most of them having an initial, medial and final form.

I have been told by one who practiced mirror-writing for amusement, that it is easier to trace with the left hand; and the following experiment made by my friend the teacher, will show that there is a physiological tendency in the left-handed children to fall into mirror-writing. He took a class of sixty boys and girls, and told them to write their names with their left hands. All copied as well as they could, writing from left to right. Some two girls and three boys wrote in mirror-writing. These were found to be all left-handed, and the only left-handed in the sixty. It did not appear that these children were conscious that they were writing in an inverse direction different from the rest. The left-handed children went to work instantly without any perplexity, and traced their letters better than the other children.

Miss C., the teacher in a public school, took 134 children of the junior division, and, getting the assistance of a colleague, separated them into small divisions, gave them pencil and paper, and told them to write with their left hands, and not to look on one another's papers. Apparently there were six children known to be left-handed, or to have a tendency to use the left hand, and three of them wrote in mirror-writing, and none else.

Dr. Peretti has made similar experiments on a number of school children in Germany. He found that out of 200 pupils, between seven and twelve years of age, 11 wrote both words and cyphers entirely in mirror-writing; besides this, 8 wrote all the cyphers, and 31 some of the cyphers in this form. Thus 50 children (= 25 per cent.) used mirror-writing in whole or in part. He found that of these 200 children, 25 were left-handed; and of the 50 who used mirror-writing, 12 were left-handed (= 24 per cent.); but of those who wrote normally only 8.6 per cent. were left-handed. From Peretti's own experiments,

as well as those of Rüthe, it seems that cyphers are more frequent traced in mirror-writing than ordinary text. In the experiments recorded by me all the children who unconsciously used mirror-writing were left-handed. The youngest children in the school were selected, and their average ages would no doubt be lower than those examined by Dr. Peretti. He correctly remarks that young children and uneducated persons are more apt to fall into mirror-writing.

In one experiment it was found that a man (a Scotchman who had lived in India), who tried to write a few Hindustani words in Arabic characters with his left hand, unconsciously traced the letters from the left in mirror-writing. Peretti tells us that the Japanese whose native characters run from right to left, when asked to write with the left hand do so from left to right.

Dr. Erlenmeyer, in his interesting pamphlet on the physiology and pathology of writing, observes that it seems to be easier to use the arms in a centrifugal direction, the left from the right and the right from the left, the motions not being hindered by the trunk of the body; and that where ease, elegance and security are needed, the movements of abduction are alway performed. He gives turning a handmill, striking a lucifer match, and executing the most brilliant passages on a piano as examples, and assures us that he could easily give more of the kind. In that case his instances do not seem well-chosen. I have been assured that many of the most striking passages on the piano are performed both to and from the center, and some exercises requiring skillful execution are certainly done in a centripetal manner; using the sling, bowling and batting in cricket are examples; and, in fact, whether in fencing, swimming, sewing, or other actions, movements must be made both from and towards the center of the body. Nevertheless, taking everything into consideration, it appears true that most actions requiring skill in their performance are done easiest by the arm in a centrifugal direction.

Dr. Wilbur, of Syracuse (N. Y.), has kindly sent me specimens of the performance of a man who could write the same words with both hands at once, the right hand in the usual way, the left in the mirror-writing; but as he could also do the same feat with both hands moving from left to right in ordinary text, it seemed to be more of a sleight-of-hand, than any obedience to a physiological tendency. Dr. Wilbur mentions the case of a left-handed child who, when beginning to read, asked his father what "efiw" was. On being told that there was no such word, the child brought his book and pointed to the word "wife." The boy for some time after made similar mistakes. Such inversions not unfrequently occur in teaching imbecile children to read, they will call "no" "on," or "was" "saw." We generally teach them small words before teaching them the letters.

Buchwald, in the Berlin *Klinische Wochenschrift*, gave the case of a man of forty-five, who presented the ordinary symptoms of apoplexy, with paralysis of the right side. After the somnolence, which for some days followed the attack, had disappeared, it was found that he was aphasic, and to enable him to communicate his ideas, he was induced to try writing with the left hand, as he could not do it with the right. He wrote in a very skillful manner his name in mirror-writing from right to left, as well as the numerals from 1 to 10, except the figure 8, which he had forgotten. The inverse direction of his writing was pointed out to him, but he could not be induced to try writing from left to right. His name and some figures being written out and held before him, he copied them awkwardly, but again fell into mirror-writing. After a time he traced the numbers 1, 2, 4, 6, 8, and 9 correctly, but gave 3, 5, and 7 in mirror-writing. He was asked to multiply a few figures, and the cyphers were correctly put down for him; he wrote the sum from right to left. In this case he must have multiplied the numbers in his mind and then recorded the result in mirror-writing. The patient remained about six months

in the hospital at Berlin, during which time, though the power of speaking, writing, and reading returned, the tendency to mirror-writing still persisted. He gave himself great trouble in trying to copy writing from left to right; he said that he could not perform it in this direction with the left hand; when he again had the use of the right hand he would do it correctly. In trying to trace the letters from left to right, he was obliged to use the half-paralyzed right hand to help the left, otherwise the operation miscarried. The 5 was the most difficult to form. Even with the right hand he traced the cypher in mirror-writing, at least, he could not manage the hook of the 5 otherwise.

The best known example of a change from right-handed to left-handed writing, Dr. Erlenmeyer tells us, is that of the MS. of the "Codex Atlanticus" of Leonardo da Vinci, in the Amboise Library at Milan. It was generally said that in adopting this singular style of writing, Leonardo wished to preserve his work from the eyes of superficial readers; but we can now give another explanation. There is a diary in the National Library at Naples, of the priest, Antoine de Beatis, who, in 1517 traveled in the train of the Cardinal of Arragon, through Germany, the Netherlands, and France. The Cardinal visited Leonardo da Vinci, who passed the last years of his life in the neighborhood of Amboise, in a villa given to him by Francis I. De Beatis remarked of the famous artist in his journal, "That nothing more of value in painting could be expected of him, as he had paralysis of the right hand." It would appear from this, that Leonardo da Vinci, being unable to use his right hand, wrote with his left, and fell into the practice of writing from right to left, in obedience to a tendency which we have sought to illustrate. A little reflection will enable one to perceive that mirror-writing with the left hand is the exact counterpart of ordinary writing with the right hand. There is the same action from the center of the body outwards, and the same muscles are used

in each limb in the same directions just as in the action of swimming; so we have only to suppose that in mirror-writing with the left hand, the writer obeyed the acquired tendency to a given muscular adjustment. But in some of our instances, children unconsciously produce mirror-writing as a correct copy of ordinary writing, from which it may be concluded that the image in their minds from which they wrote was also inverted.

It may be asked, is the image or impression, or change in the brain-tissue, from which the image is formed in the mind of the mirror-writer, reversed like the negative of a photograph; or if a double image be formed in the visual center, one in the right hemisphere of the brain and the other in the left, do the images lie to each other in opposite directions—*e. g.*, C on the right side and Ↄ on the left side?

Dr. Peretti believes that the tendency to use mirror-writing in hemiplegia of the right side is owing to the mental obtuseness of the patient rendering him liker a young child, or an uneducated person, in whom the mental image of the characters is not so firmly fixed. He quotes the observations of Heidenhain and Grützner, that a woman hypnotized on the left side of the body—which, it is assumed, implicates the right hemisphere—traced mirror-writing with the right hand as long as she was left alone, but in the usual way when expressly directed to do so. When hypnotized on the right side of the body, she wrote to the right. I cannot account for this on my hypothesis, nor indeed on any other, save by assuming that the woman had heard something about mirror-writing in palsy before she was hypnotized without correctly understanding it. Dr. Elliotson thought he had demonstrated the baseless localizations of phrenology by exciting emotions or actions corresponding to different parts touched upon the head of his mesmerized patient, who must have deceived him some way. In fact, as Dr. Peretti admits, the phenomena in persons hypnotized in one side are somewhat perplexing, since in Heidenhain's

and Grützner's experiments as many persons were found to be affected with aphasia through the right side of the brain being acted on as through the left, which is difficult to square with direct pathological observation.

Dr. Bianchi, of Naples, is more favorable to my hypothesis.

The child, he observed, attentively fixes the model, in order to impress the image on his brain, and to constrain the muscles of his hand to follow the given direction; sometimes, instead, he does no more than pass with the ink over lines (letters) traced in pale color on the paper, and thus he obtains that the unconscious impression of the motions executed by the hand is imprinted on the brain along with the image given by the sight; and by many times repeating the same impressions of images and muscular motions associated with the image, it happens at length that they obtain such close association that, in the adult, it is impossible to distinguish the two phases of the phenomenon. But the same impressions are always produced, and their imprint is preserved in the memory, becoming finally so profound that the practiced man succeeds in writing with the eyes shut, as well as with them open, presenting at such times only some disorder in the distribution of the words in the horizontal lines, and the punctuation. Experiment, therefore, tells us that, for the act of writing, we require the impression of the image of the words, and further, the impression of the motions necessary for their formation. This last fact seems to have its seat in the left hemisphere prevalently, but a little in the right also, for it cannot be admitted that the binocular impression transmitted from the eyes, and producing equal images on the hemispheres, calls forth only on the left the muscular contractions necessary for the external impression of the image.

In a hemiplegia of the right side it will therefore happen that the image, not calling forth, on the left hemisphere, any centrifugal motion of the muscles of the right hand, will oblige the extensor cellular groups in the sound right hemisphere to write from the left, because of the preserved remembrance of the muscular combination associated with the image of the word. Hence there will be an identical centrifugal motion, and the reversed lithographic writing.

THE PAN-AMERICAN MEDICAL CONGRESS.

[SPANISH ANNOUNCEMENT.]

Manifiesto Preliminar de la Seccion de Enfermedades. Mentales y Nerviosas del Congreso Médico Pan-Americano.

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Se hacen todos los esfuerzos posibles para hacer las sesiones de esta Seccion Científicamente provechosas así como agradables en el respecto social. Memorias de mérito distinguido han sido prometidas por sabios eminentes en neurológia y psiquiatria.

Cada médico en el continente de las Américas del Norte y del Sur se invita cordialmente de tomar parte en las Sesiones de esta Seccion muy importante del próximo Congreso Médico Pan-Americano, y se espera que sucederemos, por esfuerzos unidos y cordial fraternidad, de hacer la Seccion de Enfermedades Mentales y Nerviosas igual á cualquiera de las otras secciones en resultados fructíferos para la psiquiatria y neurológia pan-americanas.

Juntémonos de todas partes de América y hágamos esta convocacion digna de memoria por sus aprovechamientos científicos y sociales.

Fraternalmente,

C. H. Hughes,

Presidente Ejecutivo de la Seccion de Enfermedades Mentales y Nerviosas del Congreso Médico Pan-Americano.

M. G. Echeverria, Secretario para la Lengua Española.

Todos los periódicos médicos hispano-americanos están rogados de copiar este manifiesto.

St. Louis, Diciembre 1, 1892.

THE PAN-AMERICAN MEDICAL CONGRESS.

Preliminary Manifesto of the Section on Mental and Nervous Diseases, Pan-American Congress.

HONORARY PRESIDENTS.—Dr. Jorge Diaz Albertina, Havana, Cuba; Dr. Juan C. Castillo, Lima, Peru; Dr. C. G. Comegys, Cincinnati; Dr. F. X. Dercum, Philadelphia; Dr. J. T. Eskridge, Denver, Col.; Dr. Orpheus Everts, College Hill, Ohio; Dr. Juan M. Govantes, City of Mexico, Mexico; Dr. Allen McLane Hamilton, New York; Dr. William A. Hammond, Washington; Dr. P. O. Hooper, Little Rock, Ark.; Dr. Henry M. Hurd, Baltimore; Dr. J. G. Kiernan, Chicago; Dr. J. A. McBride, Wauwatosa, Wis.; Dr. Chas. K. Mills, Philadelphia; Dr. Moncorvo, Rio de Janeiro, U. S. Brazil; Dr. Putnam, Boston; Dr. E. C. Seguin, New York; Dr. E. C. Spitzka, New York; Dr. G. Isaac Ugarte, Santiago, Chili; Dr. Sam'l Webber, Boston; Dr. Joseph Workman, Toronto, Canada.

Executive President,

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Garcia Medina (carrera 8, nùm. 277), Bogotá, Republic of Columbia; Dr. Emiliano Nuñez (Galiano 19), Havana, Cuba; Dr. José Azurdia, Guatemala, Guatemala; Dr. George Hebert, Wailuku Maui, Hawaii; Dr. Secundino E. Sosa (Hospital de Mujeres Dementes), City of Mexico, Mexico; Dr. Pellais, Leon, Nicaragua; Dr. Francisco Soca (Florida 90), Montevideo, Uruguay; Dr. Hermiterio Formez, Mérida, Venezuela.

Every effort is being made to make the meetings of the Section on Diseases of the Mind and Nervous System both scientifically profitable and socially pleasant. Papers of distinguished merit from neurological *savants* and physicians eminent in psychiatry, have been promised.

Every physician on this continent of America, North or South, is hereby cordially solicited and welcomed to join in the meetings of this important section of the approaching Pan-American Medical Congress; and it is hoped that by unity of effort and cordial confraternity of purpose to make the Section of Nervous and Mental Diseases second to none in the Congress in fruitful results to Pan-America Psychiatry.

Let us come together from all the Americas and make the coming convocation one long to be remembered for its scientific and social benefits to all.

Fraternally,

C. H. Hughes,

Executive President Section on Diseases of the Mind and Nervous System.

A. B. Richardson, English-speaking Secretary.

Medical journals are requested to copy.

St. Louis, December 1, 1892.

SELECTIONS.

NEUROANATOMY.

THE SITUATION OF THE RESPIRATORY CENTER.—The Paris correspondent of the *Lancet* writes that we have hitherto been accustomed to regard the integrity of a tract situated in the medulla oblongata between the vasomotor center and the calamus scriptorius, and christened by Flourens *nœud vital*, as indispensable for the continuance of the respiratory function. But Dr. Brown-Séquard has brought to the notice of his colleagues of the Académie des Sciences a series of experiments conducted by MM. Gad and Marinescoy on sixty-five dogs, rabbits and cats, which lead them to a different conclusion. These physiologists maintain that the destruction of the various centers regarded by Flourens, Gierke and Mislawsky as centers of respiration, does not involve the permanent arrest of that function, provided certain operative precautions be taken. They further state that there exists in the lower part of the medulla, at some depth from the surface, a mass of cells the destruction of which brings about arrest of respiration, while the stimulation of the same mass determines characteristic changes in the respiratory rhythm. This region, which they are disposed to regard as the true respiratory center, is not a clearly circumscribed zone, but is composed of a collection of nerve-cells scattered on each side of the roots of the ninth nerve. The centrifugal paths along the cord are direct and occupy the anterior radicular zone.—*N. Y. Med. Rec.*

NEUROTHERAPY.

COCILLANA—AN INTERESTING ADDITION TO THE MATERIA MEDICA.—Respiratory inflammations always form a large proportion of the physician's cases. A Bolivian remedy which gives promise of much therapeutic efficacy is Cocillana, which was introduced a few years ago through the researches of Prof. H. H. Rusby, the eminent botanist.

Experiments were made with it by many medical

investigators, who found its action very satisfactory in catarrhal inflammations of the respiratory organs, in coryza, hay asthma, bronchitis, acute and chronic, influenza and pneumonia.

It possesses also laxative and purgative qualities, and has been employed successfully as a substitute for ipecac and apomorphia in catarrhal conditions.

Parke, Davis & Co., who introduced the remedy to physicians, will be glad to afford any facts desired concerning this new remedy.

THERAPY OF PHENACETINE.—John V. Shoemaker, A. M., M. D., Philadelphia, writes as follows: "Phenacetine was originally introduced into medical practice as an antipyretic, and subsequently was found to possess analgesic powers. In diseases attended by hyperaxia, such as rheumatism, pneumonia, typhoid fever and phthisis pulmonalis, Phenacetine exerts a very happy effect in about half the dose of antipyrine, the ordinary dose being from three to eight grains. The mortality of the typhoid fever of children has been very materially reduced by the employment of Phenacetine. The fall of temperature does not occur until half an hour after the drug has been taken, and the effect continues from four to eight hours. As an antipyretic, Phenacetine is considered by many good authorities as the safest and most efficient member of the aniline group. In epidemic influenza, Phenacetine rapidly relieves the muscular pains and favors diaphoresis; the catarrhal symptoms subsequently require other remedies.

"In ordinary colds, one or two five-grain pills of Phenacetine remove all symptoms. The combination of Salol (or Salophen) with Phenacetine is especially useful in influenza and rheumatism.

"The analgesic effects of Phenacetine are very marked in various forms of headache, including migrain and the headaches from eye-strain, having the advantage over antipyrine in not so frequently causing a rash.

"In the neuralgic pains of tabes dorsalis, in herpes zoster, and intercostal neuralgia, five-grain doses, given every hour for three or four hours, usually afford complete relief and cause sleep.

"Phenacetine is extremely useful in chronic neuritis, and, according to Kater, is unsurpassed in the treatment

of cerebral disorder due to excessive indulgence in alcoholic drinks.

"In whooping-cough one-half-grain doses dissolved in ten drops of glycerine are readily taken by children, and afford prompt relief, permitting sleep and ameliorating the attacks.

"In delirium, a dose of ten grains of Phenacetine usually afford a quiet sleep.

"Mahnert considers Phenacetine a specific in acute articular rheumatism, as it reduces fever, relieves pain and lessens the duration of the attacks. It has been found useful in some cases of gonorrheal rheumatism, and is worthy of more extended trial in this rebellious affection.

"Given several hours before the time of the paroxysm of intermittent fever, it prevents the chill.

"In insomnia from simple exhaustion Phenacetine acts admirably."—*Shoemaker, Materia Medica, Pharmacology and Therapeutics*, Vol. III.

Myxœdema and Its Treatment by the Injection of an Extract of the Thyroid Gland of Animals.—In his *Archives de Physiologie Normale et Pathologique* (1892, No. 4), Brown-Séquard gives a short account of the history of this mode of treatment, that has been employed with so great success in France and England. He shows that it is Bouchard to whom we owe the new idea. Bouchard first tried to graft the thyroid gland of other animals upon dogs deprived of their thyroid gland, and, after performing this successfully, he had the idea of injecting thyroid juice into a female patient afflicted with myxœdema. This was in 1887. Unfortunately the woman left the hospital before any definite result could be derived from her case. Bouchard communicated his idea to several colleagues, but did not do much to give it publicity. Yet, he was undoubtedly the first who thought of injecting organic juices hypodermically, and of making use of this process in myxœdema. When Brown-Séquard, in 1889, proposed to inject testicular juice hypodermically in the same way, he knew nothing about Bouchard's previous experiments. The same was the case when he, together with d'Arsonval, proposed the hypodermic injection of different organic juices in cases of defective action of the corresponding human organs (in 1891). The first printed publication on the successful use of

thyroid juice on dogs deprived of their thyroid gland is due to G. Vassale (*Rivista Sperimentale di Freniatria*, etc., 1890, page 439). Soon after that Gley pushed the matter further, and applied it to man in cases of myxœdema. Simultaneously (June, 1891) Merkler practiced the same method. These trials, however, were not successful, so that the merit of having first treated myœdema successfully by the new process, is due to George R. Murray (*Brit. Med. Journal*, 1891, page 796). Since that time quite a number of successful cases have been reported. With respect to further cases, Brown-Séquard expresses the opinion that there is considerable danger in employing thyroid juice that has been filtered through paper only, as is being done by English clinicians. A porcelain or aluminum filter should be used, preferably the one devised for this special purpose by Brown-Séquard's collaborator, d'Arsonvale, and which is the one exclusively used at the College de France.

In the August number (1892) of the *Rivista Sperimentale di Freniatria*, etc., G. Vassale reports on the latest successful cases of treatment of myxœdema by injections of thyroid juice. Carter treated a case of myxœdema with insanity in a married woman of forty-three years, by injections of thyroid extract prepared from the thyroid glands of oxen and hogs. The patient had all the typical symptoms of myxœdema, and besides periodical attacks of maniacal excitement. The patient had been in an asylum for four years. The treatment with injections of thyroid juice was begun on the 21st of October, 1891, and was continued until the 7th of February, 1892. The injections were made twice weekly. After the fourth injection the patient became much quieter; at the sixth injection the expression of the face was much better and the skin had turned nearly normal. At the end of the year the clinical picture of myxœdema had completely disappeared. The speech was normal. The main action of the injections in this case was on the physical symptoms, but the mental condition was improved a great deal.

(*Edinburgh Med. Jour.*, 1892, No. 5.)

Macpherson treated a woman of thirty-nine years, affected with myxœdema, by implanting under her skin the thyroid gland of a sheep.

The disease was of three years' standing. The psychical condition was characterized by melancholia with

stupor and terrible hallucinations. The extremities were cold and œdematous. The patient refused to eat; there was a tendency to lethargy; the movements were slow and lazy; the tendon reflexes exaggerated. The face had a waxy appearance; the tongue was thickened and flaccid, showing the impressions of the teeth. The speech was difficult. There was marked supra-clavicular œdema. The hair and nails were characteristic. Extreme anæmia was present; menstruation appeared every fortnight and lasted a full week. The urine was scanty.

Macpherson took a lobe of a freshly excised thyroid of a sheep, divided it in two parts and grafted it under the skin of the two submammary regions of the patient. A sudden improvement of the physical, as well as of the mental, symptoms took place and made rapid progress. The patient began to speak much, the headache, the melancholy and the terrible hallucinations disappeared, and never returned. So did the anæmia and the irregularity of menstruation. The skin returned to its normal state of nutrition. This sudden improvement can, of course, not be attributed to a suddenly developed function of the implanted gland, but to the absorption of its juice.

On the 2d of July last, Brown-Séquard presented to the Société de Biologie a patient that had been treated for myxœdema by Dr. Chopinet, with an almost complete success. The disease was of many years' standing. About December, 1891, it was resolved to undertake the treatment by injections of thyroid juices. By an anatomical mistake the thymus gland of a ram was used instead of the thyroid gland. No result was obtained in consequence of this. The disease made rapid progress and had reached a fearful development at the end of March, 1892. The intellect had not suffered much, though The memory was slightly impaired, and there existed a condition of cerebral fatigue that made reading and conversation laborious. The face had an expression of hebetude, but this was mainly the consequence of the swelling of the tissues and of the extinction of all characteristic features. At the beginning of April, treatment by massage and the continuous current was resorted to. The latter proved to be of little use, but the treatment by massage resulted in a rapid reduction of the size of the upper and lower limbs. At the same time the skin of the head and neck, which were not subjected to the massage, thick-

ened more and more, and the attacks of oppression increased in frequency and often made the patient believe that she was about to die. In the meantime, Dr. Chopinet had occasion to find out what mistake had been made at the first trial to treat the patient by injections and made up his mind to try again. The first injection with the juice of a ram's thyroid was made on the 2d of May, and the treatment was continued until the 20th of June. On the 10th of May, an improvement of the gait was noticed as well as a going down of the swellings of the face, scalp, lips, lids, tongue, etc. Speech, mastication and deglutition became easier, the attacks of oppression were no longer so frequent nor so intense. They ceased completely about the 1st of June. The appetite also became better and the digestion less difficult. On the 21st of June, a complete transformation of the patient could be stated: the face of the patient looked nearly normal and had regained its usual expression. There was no swelling of the parts of the face, no difficulty of speech or deglutition.

Another case of myxœdema treated by the method of injection has been published by Dr. Boeck (*Journal de la Société Royale des Sciences Médicales*, etc., 1892). His patient was a girl of twenty-four and had been sick for many years. All the physical signs of myxœdema were present and severe psychical disturbances besides. The injections were commenced on the 3d of January, 1892, and continued until the 10th of May. There were made twenty-eight injections altogether, at intervals of at least three days. The effect on the physical side of the disease was quite manifest from the third injection onward; the excretion of urine was much increased. At the same time the patient complained of thirst. The œdema disappeared completely, and the weight of the body diminished by nine kilograms. The bony prominences became visible and the face assumed a natural expression. The carriage of the patient changed completely, the hairs underwent an alteration too, and the new ones were quite normal. The skin changed from white to rosy and became quite vascular. The effect on the patient's mind was much less marked, yet distinctly perceivable. Sentiments of affection were again noticed in the patient and she was able to understand the meaning of a punishment. The patient also returned to cleanliness and regained control over bladder and rectum.

The above mentioned authors prepared the thyroid in most cases—according to the rules laid down by Murray. The gland is carefully separated from the surrounding tissues by perfectly aseptic instruments, and is then divided into small pieces. These are placed into a sterilized test-tube, and a solution of equal parts of a 0.5 per cent. solution of carbolic acid and glycerine is then poured over them. This test-tube is left in a cool place for twenty-four hours, and its contents are then passed through a sterilized fine cloth under some pressure. In this way about three oz. of fluid are obtained, which are injected in two or three portions, at intervals of at least two or three days. This method of preparation is within the reach of everybody. The active principle passes in great quantity into the filtrate, and is very little, if at all, affected by the small percentage of carbolic acid. The fluid prepared in this way always shows a great activity.

The cases which are reported here are all such in which no other method of treatment, more especially that by suggestion, was made use of. In every case it was quite evident that the improvement was due to the action of the thyroid juice only. The improvement would stop as soon as the injections were interrupted, and none of the methods of treatment practiced previously to that by injections had shown any power over the disease and its progress.

About the mode of action of the thyroid juice in cases of myxœdema, Vassale has expressed his opinion on a previous occasion; it seems to act by transforming the products of metabolism and by rendering easy their elimination from the system. Some recent experiments made by Godart and Slosse, under Prof. Heger's supervision, tend to prove this theory. They experimented on large dogs, collecting the lymph—by means of fistulæ—that would flow in a certain time from the thoracic duct. They then repeated the same procedure, under otherwise equal conditions, after the injection of thyroid juice. The quantity and quality of the lymph were seen to change in a few minutes after the injection of the juice, and did not resume their ordinary characters until after a variable time. This seems to prove that the thyroid juice is to be considered as a lymphagogue, similar to the lymphagogue substances of Heidenhain. This physiologist has proved that the

production of the lymph is not only an act of filtration, and that certain substances, *e. g.*, an extract of the muscles of the cray-fish, augment the quantity of lymph flowing from the blood to the tissues. The tissues are irrigated more copiously by the lymph, and the discharge from the thoracic duct is greater. Other substances, like urea and iodide of potassium, produce a similar effect, but in a different manner. They draw the watery part of the tissues into the interlymphatic spaces, which then is eliminated either by the lymphatics or by the veins, in consequence of which there is increased diuresis. The thyroid juice could belong to this second class of Heidenhain's lymphagogues. In this connection the fact is of interest that the injection of urea has proved beneficial in dogs deprived of their thyroid bodies.

The question may be raised, which is preferable in the treatment of myxœdema, the injection of the thyroid juice or the implantation of the gland itself. According to Macpherson the method of grafting is the better and more reasonable one. The juice is absorbed just as in the method of injection, and there is a chance of at least part of the organ adapting itself to the new organism and entering into its economy. The transplantation of the thyroid gland into the peritoneal cavity, and more easily between the fascia and peritoneum has been effected successfully. But it is more difficult to transplant on man the thyroid of a different species of animal; and it is very difficult to avoid suppuration, which occurred in Macpherson's own cases. Injections, on the other hand, if practiced under strict antiseptic precautions, do not involve any risk for the patient, and if practiced early in the course of the disease, they allow of expecting a complete and lasting cure with arrest of the morbid process that would have led to a more or less complete atrophy of the thyroid gland. If the disease is very much advanced, it is easy to understand that not all the symptoms can be removed, those of a psychical character withstanding to a certain degree. The central nervous system subjected for a long time to the obnoxious influence of the defective action of the thyroid gland, will have undergone profound and irreparable anatomical changes. In very advanced cases the thyroid gland will have been altered so much, that it is no longer able to take up its functions, and in those the effect of the injections naturally will be more or less transitory.—T.

PSYCHIATRY.

Disturbances of Speech in the Insane.—By Dr. Otto Klinke (*Allgem. Zeitschrift für Psychiatrie, Bd. 49, 1. und 2. Heft.*)—The author gives a short review of the different opinions on the nature of the disturbances of speech in the insane, pointing out the difference that exists between Moeli, Goldscheider and their followers on the one side, who hold that even in the adult the nervous path of the action of speaking is from the center of ideas over the center of word sounds to the centers of word movements, and Wernicke and Lichtheim, with their followers, on the other side, who hold that there exists in the adult a direct path from the center of ideas to the centers of word movements. The latter view is opposed by the former men on the ground that it cannot be understood how associations that are used to a certain path, may give it up for a shorter one that is not based upon the natural genesis. Dr. Klinke then dwells on Wernicke's system of classification of psychoses generally, which the latter classifies as psycho-sensorial, intra-psychical and psycho-motorial disturbances, and tries to apply this classification to the disturbances of speech in the insane. In this respect, it might be required to change those terms into centro-sensorial, intra-central, centro-motorial; since we do not know what part the patient's consciousness plays in the phenomena of disturbed speech, and Dr. Klinke insists upon the necessity of always trying to find out and to take into account this factor.

If we try to apply Wernicke's principle—the existence of a direct path from the center of ideas to the motor area of speech, with occasional controlling side currents to the sensorial area—and his classification to the disturbances of speech, we will have to say that in melancholia and mania we find mainly psycho-motorial and intra-psychical disturbances; in simple confusion, intra-psychical; in paranoia, psycho-sensorial disturbances. Mainly, says the author, since there will be in melancholia with hallucinations of hearing certain disturbances in the word-sound area; in mania with increasing confusion of ideas, psycho-sensorial hyperæsthesia; in cases of paranoia with impediments of speech, etc., psycho-motorial and intra-psychical disturbances. Most of our observations on the disturbances of speech are based

on the motor phenomena observed in the patient, but the fact that these motor disturbances are observed, is not sufficient to show where the real causative lesion is to be found. By using Wernicke's classification we are enabled to consider those disturbances of speech which used to be spoken of separately from the aphasiæ, etc., like anomalies of the "tempo" or of the contents of speech, from a common point of view. The accelerated, violent language of the maniac, and on the other hand, the difficult, slow and impeded speech of the melancholian, which may culminate in complete muteness, we may call, in the sense of Wernicke, hyper-, hypo- and a-kinetic phenomena. The muteness that is based on imperative hallucinations or insane conceptions will be a—either anæsthetic or paræsthetic—psycho-sensorial disturbance, and the muteness of idiotism, dementia, deaf-mutism, which may be caused by a lack of associations, or a loss of ideas of speech, or of the impressions of word-sounds, may be either intra-psychical or psycho-sensorial or psycho-motorial in nature. Of the anomalies of the form of speech, the pathetic language of those in ecstasy, the predilection for diminutives of those affected by paranoia, the tendency to silly rhyming, may be considered as psycho-sensorial and intra-psychical hyperæsthesia; the verbigeration—supposing the patient not to be able to influence the whole speech-motorial tract, but only the tract for single words, by the will-impulses present—as a psycho-motorial parakinesis. As to the disturbances of the contents of what is spoken, we have to pay attention, in the first place, to the new formation of words and of languages. These disturbances, too, apart from the cases in epileptics and paralytics, may be brought under Wernicke's classification; according to their being provoked by hallucinations, or—suppose—an unconscious cerebral mechanism, we may call them intrapsychical, para-, or a- functions, or psycho-sensorial paræsthesia.

To these theoretical considerations, Klinke adds the report of some cases that came under his own observation.

John N., a shoemaker, 35 years old, belonging to a healthy family; has been affected for about a year. No signs of paralysis; pupils normal; no disturbances of sight; slight tremor of hands. Patient speaks much, sometimes almost continuously, with normal articulation. Does not allow himself to be interrupted, although he

will pay attention to simple orders given him. His language is characterized by the almost complete absence of verbs and conjunctions; nouns and numerals form the bulk of his utterances; the latter are often repeated several times. The patient does not answer questions correctly, but is able to tell his name. In trying to give the year of his birth, he will cling to a number, repeat it and finally lose his track. Have we to consider his speech as a pseudo-aphasic or encephalitic confusion, or as paraphasia and sensory aphasia? or as the speech of a paralytic? There are no well-marked symptoms that allow us to come to a definite conclusion. There have been no distinct attacks of any kind, except a certain degree of somnolence in the beginning; no marked excitement has been observed; there are no symptoms of ataxia. The patient is a steady and skilled worker; his mind is quiet and contented; he has never been passionate or markedly depressed. It is impossible, at present, to give a satisfactory explanation of this kind of disturbance of speech. All we can say is that there is a disturbance in the center of word-sound pictures, a considerable impoverishment of the *thesaurus verborum*, accompanied by very active impulses to speak.

Charles L., actor, 44 years of age, a case of advanced paralysis. Lost his speech for five months after a paralytic attack, then began to speak again in short sentences that often return, and which he tries to explain and to make complete by lively gesticulation. He names objects shown him paraphasically; he often tries in vain to find the proper word-sound for words written by him; he is unable to name the colors correctly, with the exception of black and white; cannot read or write figures with certainty, whereas he is able to copy letters and words and to write them on dictation. It appears that we have, in paralytics, in the first place, amnesic and motor aphasia, besides this, an extensive breaking down of the paths of association, which shows itself in the patient's endeavor to find the expression of objects shown him by the aid of other senses. The ultimate complete loss of speech is explained by the dementia, aphasia and complete paralysis of co-ordination.

The disturbances of speech in insane epileptics have never been made the subject of a complete and exhaustive study. In young individuals of this class and with rapidly increasing dementia we see disturbances of artic-

ulation, symptoms of aphasia, principally motor aphasia, disturbances of the reproduction and association of ideas. In some we notice a strikingly slow, stammering, clumsy and hesitating language, the formation of meager and awkward sentences; in others, pathetic declamation, verbigeration, also the formation of new words and new languages. Dr. Klinke gives the following specimen of the language of a young insane epileptic, a senseless mixture of German, Polish and Latin words, with new formations, slightly resembling words of those languages: "Ti de ci dobschi, paraschtowie, doctorsche, dobsche, borsche, to jest jüdische Bundeslade, abo pilato titus, powierze, na ten doctor jüdisch, owische drosche, na de stenographsche, absches to jest Kreuzigung strafe, na ten knorre triddel taddel, rippisch, tosisch, brosisch, starich, Bundeslade, Judenthum, alma mina."

In a case of senile dementia the disturbances of speech were complicated by deaf-mutism and soul-blindness. Patient had been educated in an asylum and had learnt to speak, to read and to write, receiving impressions from his teachers by the sense of sight. He had had two attacks of apoplexy before he came under Dr. Klinke's care. He was unable to find his bed, the chamber-vessel, the water-closet, and did not know anybody but the doctor and the attendant. Patient is able to pronounce words with tolerable accuracy. His reading is limited to single small words in written characters and to figures. He cannot read printed matter and cannot write, except his own name. There apparently exists right-sided hemianopia on both eyes. If the patient is asked the name of objects shown him, he very often finds no expression at all; at other times, he will name things wrongly, but using an expression that has some connection with the object before him. He will say "music" instead of "violin;" "lead-pencil" for "rubber;" "to make fire" for "match," etc. He also shows a tendency to repeat one and the same expression several times, to designate different objects. Patient is extremely forgetful, and his power of receiving and storing up new impressions of sight—his optical memory—seems even more impaired than his power of recognition and apperception. All these facts taken together point to a mainly cortical affection, in accordance with the theory that senile dementia is a disease of the cortex.

As well as progressive paralysis it cannot be brought

under Wernicke's classification, which refers to the secondary disturbances of identification with transcortical pathological lesions.

In the last place, Klinke mentions the remarkable case of a deaf-mute patient that had become highly myopic. He became paraphasic to such a degree that there was no sense in his spoken as well as his written language. The lack of distinct sight prevented him from continually controlling and correcting his organs of speech.

MORBID CRIMINAL IMPULSES.—Magnan (*Jour. de Méd. de Bordeaux*, August 14th, 21st, 1892) states that when morbid conceptions occur in degenerated subjects they are accompanied with a moral pain and anguish so acute as to subjugate the will. In these states the conception leads to the impulse and the conscious subject is pressed to acts of which he disapproves. Dr. Magnan discusses the homicidal impulse and points out that pure impulses of this type may occur independently of sexual elements, of delusions and of hallucinations, and cites several illustrative instances. The two types of robbery imperative conceptions (kleptomania and kleptophobia) are not frequent. The first is a morbid tendency to steal; the second, a fear of robbery. The imperative conceptions relating to fire include pyromania (morbid incendiarism) and pyrophobia (fear of fire). These are rare. The sexual impulses are divided as they occur, into spinal, posterior cerebro-spinal and anterior cerebro-spinal, and anterior cerebral spinal or psychic cases (ALIENIST AND NEUROLOGIST, 1884). The third type comprises the sexual perversions, but the sexual instinct may take for object not the totality of the body, but certain of its parts or certain matters pertaining to it (napkins, handkerchiefs, locks of hair, etc.), and in Magnan's opinion, here should be placed the cases of bestiality. In the first group there is a purely medullary reflex act of priapism. In the second type the reflex departs from the posterior cerebral cortex to about in the spinal cord. The sight of a person of the opposite sex alone suffices to provoke an orgasm. In the third, the point of departure of the reflex is the anterior cerebral cortex. The physiological sexual mechanism exists with false or perverted functions, and in the fourth group, the inferior instincts have disappeared. The victim is indifferent to the instinct

of generation. It is love without venereal desire and without carnal preoccupation. These are the platonics and the ecstatics. These episodiacal syndromes all emanate from degeneracy.

Homicidal Imperative Impulse.—Ladame (*Revue Internt. de Biblio. Med.*, Nov. 10th, 1892) considers, like Westphal, an imperative conception, any idea which (the intelligence being intact and there being no existent emotional state) appears to consciousness and against the will, interferes with the free course of ideas, while appearing an abnormality to its victim. The homicidal impulse alone is discussed by Ladame, who regards it as an expression of degeneracy. Homicidal impulses occur in two classes; First, Those which remain theoretic and do not result in homicide; Second, Those who attempt or commit homicide in consequence of the impulse. The homicidal impulse may, in certain cases, be the sole psychical evidence. It forms then a mobile, transitory episodiacal variety of mental degeneracy. It may assume a periodic or intermittent type. The homicidal impulse shows itself episodiacally and most frequently under the form of a moral epidemic after striking crimes or executions.

NEUROPHYSIOLOGY.

Supplementary Thyroid Body in White Rats.—M. Brown-Séquard presented to the Soc. de Biologie, in the name of M. Cristiani, of Geneva, a note relative to the existence, in the neighborhood of the principal thyroid gland, little supplementary glands. This fact has been established in a large number of white rats. M. Cristiani is also assured, by very numerous experiments, that these animals do not succumb after ablation of the thyroid gland unless the precaution is taken to remove at the same time the two little adjacent glands. These results are in accord with those previously obtained by M. Gley in rabbits.

Somniferous State of Animals in Whom the Cerebellum Has Been Raised.—When a dog is cured of traumatism he recovers his motility, but on covering his eyes he remains motionless, extends his legs and stretches himself slowly on the ground where he can rest his

tired head and neck. There he remains deaf to all sounds and if his position is changed, using his members awkwardly. On suspending him in the air by the nape of the neck, his head, ears and paws droop as if he were dead. There is diminution of the tendonous reflexes, relaxation of respiration. On removing the bandage from his eyes, he regains his activity. The author believes that the privation of sight prevents the animal from staggering, as being conscious of his helpless condition he never attempts to move. It is a sort of collapse.

P. K.

NEUROPATHOLOGY.

Blood-Pressure in Ten Cases of Mania and Melancholia.—Dr. Cramer, of Eberswalde, Germany, has made a long series of measurements of the blood-pressure in ten cases of mania and melancholia, using Basch's sphygmomanometer. Since muscular action raises the blood-pressure, in disease as well as in health, he had to exclude the maniacs during the period of excited muscular activity. The most important of his results is that in circular insanity the blood-pressure rises in the stage of depression, and that similarly in melancholic patients the blood-pressure is high during attacks of fear and anxiety. In the latter cases the pressure was from twenty to fifty mm. of mercury higher than at other times. The external appearances correspond to these observations, the skin and mucous membranes being pale, and the arteries at the same time feeling contracted and wiry. These facts led to the use of amyl nitrite, which acted very favorably, although only for a short time. Further therapeutical experiments in this direction will perhaps, be successful.

EDITORIALS.

[*All Unsigned Editorials are written by the Editor.*]

Primary Confusional Insanity.—Dr. E. C. Spitzka about a decade ago ("Insanity, Its Classification, Diagnosis and Treatment," 1883) differentiated a psychosis, which he entitled "Primary Confusional Insanity." He applied this title (an approximation of the German title "Verwirrtheit" applied to the same mental states) to a form of insanity "which develops rapidly on a basis of cerebral exhaustion. Consciousness is blurred in parallelism with the conceptional disturbance and the patients on recovering have as a rule but very crude recollections of their condition. Its duration is variable, comprising weeks or months. The prognosis is as a rule as good as that of stuporous insanity, which condition it also resembles as to ætiology; emotional shock, cerebral overstrain, exhausting diseases and excesses being the principal factors responsible for primary confusional insanity. The patients suffering from this psychosis, after a rapid rise of their symptoms during a period of incubation rarely exceeding a few days, present hallucinations and delusions of a varied and contradictory character. The delusions may resemble those of mania, and more often those of melancholia, but no emotional state is associated with them. The patients assert in the same breath, that their property is being stolen and that they are going to take part in some state affair. There is a surface resemblance between the confusion of mania and that of acute confusional insanity. The confusion of mania is not the expression of a genuine confusional state, but of a disparity between the ideational items and the word channels through which they seek exit. That of acute confusional insanity is an expression of a true, essential confusion of ideation." Dr. Kiernan, discussing demographic psychiatry used the same term about three years later (*Journal of Nervous and Mental Disease*, 1886) and in 1888 (*Medical Standard*, Vol. VI), he pointed out that this psychosis occurred as a secondary result of essential fevers, toxic agencies, surgical procedures and analogous states. Dr. H. M. Bannister

also used the same term in the same sense ("Trans. International Congress," 1887). In 1889, in an article clearly suggested by Dr. Spitzka's work on insanity, Dr. H. C. Wood used the same term to designate this class of cases. Antecedent to Dr. Wood, Dr. H. N. Moyer had testified to the existence of certain forms of insanity bearing this designation. Dr. Ferguson ("ALIENIST AND NEUROLOGIST," 1892), has once more analyzed this psychosis. In an article evidently prompted by that of Dr. Ferguson and the work of Dr. Spitzka, Dr. Chasten (*Annales Medico-Psych.*, September-October, 1892) discusses the same psychosis under the title "*la confusion mentale primitive.*" He cites the following synonyms: *demence aigue* (Esquirol, Briere de Boismont), *stupidite* (Dagonet, Ferrus, Georget), hallucinatory confusion (Delasiauve), *delire d'inanition* (Becquet), cerebral torpor (Ball), *hallucinatorisches Verwirrtheit* (Meynert, Fritsch), *acute primäre Verruckhtheit* (Westphal), *hallucinatorisches Wahnsinn* (Krafft-Ebing), *einfache Verwirrheit* (Wille), *acuter Wahnsinn* (Schulte), *acutes asthemsches delirium* (Mayser), *hallucinatorishes Verwarrenheit* (Konrad, Salgo, Scholtz), *asthenisches hallucinatorisches Verwirrheit* (Kräpelen), mania hallucinatoria (Mendel), dysnoia (Korsakoff), *delire sensoriel* (Schereschanski), *folie generale* (Rosenbach), primary confusional insanity (Spitzka), *frenosi sensoria acuta* (Morselli) and acute confusional insanity (Conolly Norman). Chaslin concludes that there exists an acute psychosis, which is neither mania nor melancholia, due to rapid brusque exhaustion of the central nervous system, often due according to certain authors to infection or auto-intoxication. This psychosis should be separated from those due to "degeneracy." It is intermediate between the so-called functional psychoses, and those with demonstrable lesions. It is essentially characterized by confusion of ideas due to enfeeblement and inco-ordination of the processes of association of ideas of perception and of personal apperception. It may be accompanied with hallucinations, with motor agitation or depression or stupor. The emotional tone is usually indifferent or brusquely valuable. Kiernan says (*Western Medical Reporter*, Nov. 15, 1892), that the phenomena presented by this psychosis bear a superficial resemblance to the episodiacal excitement of paranoia as well as to the period of transformation. Both are attended by hallucinations and agitation, but in paranoia there is an underlying

intellectual element which, together with the precedent history, serves for demarcation. The febrile disorders often set up a neurosis which serves secondarily to the acute confusional insanity as a basis for the development of paranoia. Such an association is however purely fortuitous. Acute disorders may expedite in degenerate subjects the development of paranoia after an acute confusional insanity, but this has no special relation to the succeeding psychosis since paranoia was simply hastened in its development, not created by the confusional insanity. This fact however led Westphal erroneously to classify acute confusional insanity with paranoia. Rosenbach has recently pointed these resemblances in a very graphic manner. The temperature in typhomania and the furibund symptoms differentiate it from acute confusional insanity, as well as the greater mental defect. Kraepelin, who has studied psychoses of this type most extensively, is of opinion that to systemic nervous exhaustion—not to toxic elements is it due. This is also the opinion of Moeli who, in a case resultant from lead colic, claims that the exhaustion from the colic, not the lead poisoning, was the chief cause of the psychic symptoms. Binswanger in discussing the psychosis as it supervenes on fever from brass poisoning in brass founders, inclines to Moeli's opinion. Spitzka regards the adynamia as the essential basic ætiological factor. This opinion of Spitzka has been adopted by H. C. Wood. Ferguson insists that the toxic factors play a part in certain cases. Kiernan says that "this may be granted but they as a rule produce no symptoms differing from the cases developing on exhaustion from other causes. This adynamia is, as many of the older clinicians have shown, simply a nervous asthenia produced by various causes ranging from psychical to toxic. On it the whole group of adynamic psychoses designated as primary or acute confusional insanity develops.

If you are an Advanced Physician or Progressive Lawyer, you cannot do without the ALIENIST AND NEUROLOGIST. The ablest men in Neurology and Legal Medicine subscribe and write for it. The morbid movements of the mind, brain and nervous system, are mirrored in its pages by master minds in medicine. It constantly gains and seldom loses subscribers, except through death. C. H. Hughes, M. D., Editor and Publisher, 500 N. Jefferson Ave., St. Louis, Mo.

Louis Pasteur.—The seventieth anniversary of the birth of this famous chemist and biologist, was fittingly celebrated by the Academy of Sciences, at Paris, on December 27th last. The literary, scientific and medical world of France, and numerous delegations from other countries, assembled on that occasion to proffer their homage. President Carnot conducted Professor Pasteur into the hall of the Sorbonne, amid the plaudits of the audience. Professor Lister, of Great Britain, opened the celebration with a few impressive words, in which he heralded the probity as well as the scientific attainments of his distinguished friend. M. Dupuy recounted in an oration the remarkable discoveries of Pasteur, and covered with praise the illustrious man whose contributions to science have been so numerous, so ingenious, and so invaluable. At the close of Pasteur's modest and touching reply, a gold medal, specially struck for the occasion, was presented to him by the President of the Academy of Sciences, and the ceremony terminated with handshaking by the admiring throng that pressed to Pasteur's side.

The lightning's flash which on the same day conveyed to the remotest parts of the globe, the news of this new accession of honor could not heighten the already resplendent reputation of Louis Pasteur. The fame of him who has been foremost in carrying French science to its present renown was already familiar to the world. To the depths of Russia, to the torrid plains of Algeria, to the sunderbunds of India, and to the wilds of the two Americas, his great name had penetrated. Seldom or never before has the rare fortune been vouchsafed to the most favored mortal to enjoy within his lifetime such ripeness of scientific distinction.

So colossal a reputation, so honestly and enduringly won, should disclose some special key to its owner's extraordinary success, some central stone in so grand and imperishable an arch. This is found in the severe logic, which has rigorously and distinctively prescribed a pathway to Pasteur's genius, from the outset of his wonderful career. It has been a programme of action from which he has never deviated. It enabled him, in 1844 (when Pasteur was yet a lad of twenty-two, and a pupil of the Normal School), while engaged in the investigation of tartaric acid, to establish a theory which should guide all his future researches and, what was of paramount importance to the scientific world, to trace an

exact limit between the field of organic and that of inorganic chemistry.

With a clue gained at this same period, he plunged into the labyrinth of the fermentations, and emerged after long and patient exploration with a fund of knowledge, which wholly reformed and measurably perfected this hitherto obscure province of organic chemistry. His methods were for the most part as simple as they were easy of application. He demonstrated that liquids in which fermentation germs had been destroyed by heat, and from which they were excluded by sealing, could be preserved intact for years; but that when they again became exposed to the atmosphere, in which medium these germs are ever present, the process of fermentation at once resumed sway. He thereby incidentally made clear the impossibility of so-called "spontaneous generation," and to that fallacy dealt a complete and irremediable blow, which marked a new epoch in the progress of scientific discovery. As a corollary to his beautiful experiments in this line, he detected vicious fermentations in wine, vinegar, and beer, and pointed out the means of destroying them or of conducting them into healthy processes, a discovery which was of immense pecuniary value to the respective interests involved.

In 1849, and subsequent years, the silk industry in France was threatened with extinction by reason of disease of the silk-worm, and the aid of Pasteur was invoked. He hesitated, for he was only a chemist. Could he successfully apply his logical processes to the diseased animal tissues? Pasteur finally answered this question triumphantly in the affirmative; for after several years of study and experimentation (during which he suffered an attack of paralysis, in Alais), he laid before the Academy of Sciences his report, wherein the principal diseases of the silk-worm were accurately described, and the remedies for their successful removal plainly indicated.

It was now but a step for Pasteur to conjecture that various diseases of the higher animals, and of man, are akin with fermentations, and that the contagious and infectious diseases owe their origin and ravages to pseudo-fermentation germs. He was the first to apply these new ideas to the discovery of the bacteria distinctive of the *charbon*, a disease which deals destruction to cattle and sheep, and occasionally to man. It is true that Davaine had

already recognized these peculiar bacteria in *charbon* blood, and that Raspail had shed much light upon the blood parasites of the contagious diseases, but it was reserved to Pasteur to confer upon these discoveries their absolute value in medicine, and to harmonize them with his own previous theories. His experiments with the inoculation of the attenuated virus of the *charbon* disease were of startling signficance and suggestiveness, and set on foot tests with the attenuated virus of other diseases, in all parts of the civilized world.

Every reader is amply familiar with Pasteur's scientific encounter with the hydrophobia. What results will finally accrue from his methods of therapeusis in this redoubtable disease, time, which is the true arbiter in medicine, alone will tell. This much, however, appears to have been incontrovertibly proved, that among hydrophobics, or persons who had become inoculated with the saliva of rabid animals, those patients who were treated by the Pasteur method, under all the conditions rigorously prescribed by him, experienced only a minimum mortality. On the other hand, those persons who were infected with the hydrophobic virus prior to the Pasteur era, died in very large proportion.

Although this professor in the Normal School never held a graduate's diploma as physician or surgeon, his discoveries constitute the groundwork of all modern antiseptic surgery.

Such is a brief and imperfect sketch of Pasteur's work. The latter is unique in this particular, that it embraces and welds, in inseparable logic, two hitherto measurably distinct and disconnected sciences, viz., chemistry and medicine. The genius of Pasteur has also completed the union, in indissoluble bonds, of hygiene and therapeutics, and given an enormous impetus to their conjoined march, the ultimate goal of which can be but imperfectly estimated. In view of their present gigantic strides, is it Utopian to expect from them the final prevention and extirpation of all virulent contagious diseases? This consideration accentuates the immense importance of the labors of Louis Pasteur. W. W.

The Alienist and Neurologist should be considered when you make up your 1893 list of medical journals. It is the leading journal on nervous and mental diseases on this continent.

The Commitment of Lunatics.—Dr. Carlos F. MacDonald, in the *New York Times* of November 27th, 1892, reiterates the often expressed statement of American physicians of hospitals for the insane, on a purely sensational aspect of this subject as follows:

The assertion so often flippantly made that almost any two doctors can be induced for a consideration to certify to the insanity of a sane person, in order to enable his relatives to get him out of the way, does the medical profession a great injustice. During the more than twenty years that I have been professionally connected with hospitals for the insane, also in my official capacity as the medical member of the Commission in Lunacy, I have had occasion to examine thousands of cases in custody--either at the request of others who thought them sane, or frequently at the solicitation of patients themselves--and I have yet to find a single case of whose insanity I had any reasonable doubt, except in certain convalescent patients who were about ready to be discharged as recovered. I have, however, known of cases in which the commitment papers were defective, and also, though very rarely, instances of mistaken diagnosis, in which the delirium of fever, alcohol, etc., has been mistaken for insanity proper and the case sent to an asylum. But, to the credit and honor of the medical profession, be it said, I have yet to find an authenticated instance of a sane person being certified as insane and incarcerated in an asylum through fraud, corrupt collusion, conspiracy, or wrongful intent on the part of medical men.

The Preliminary Announcement of the Pan-American Medical Congress is a sixty-four page book, and contains full information regarding this coming important medical event. The committees and officers of sections are given. We urge all who contemplate attending this great Congress to register at once. The fee ($10) should be sent to Dr. A. M. Owens, Evansville, Ind., the Treasurer.

The Neurological Section of the approaching Congress promises, from present indications, as indeed the entire Congress promises, to be the grandest medical event of the century on this continent.

Alienism and neurology will be well represented at the Congress, and distinguished gentlemen in the ranks of neurology, from every section to be represented have already signified their intention to be present at the coming convocation.

From present indications the social, as well as scientific, features of the Neurological Section are to be unsurpassed.

Dr. Chas. A. L. Reed, the indefatigable Secretary-General,

and his distinguished *confrères* of the Executive Committee are sparing no pains to make the coming Congress in all of its features thoroughly representative of Pan-American Medical science and progress and the genial character of these gentlemen already assures the social happiness of all who may attend.

Alvarenga Prize of the College of Physicians of Philadelphia.—The College of Physicians of Philadelphia announces that the next award of the Alvarenga Prize, being the income for one year of the bequest of the late Señor Alvarenga, and amounting to about One Hundred and Eighty Dollars, will be made on July 14, 1893, provided that an Essay deemed by the Committee of Awards to be worthy of the prize shall have been offered.

Essays intended for competition may be upon any subject in Medicine, but cannot have been published, and must be received by the Secretary of the College on or before May 1, 1893.

Each essay must be sent without signature, but must be plainly marked with a motto and be accompanied by a sealed envelope having on its outside the motto of the paper and within it the name and address of the author.

It is a condition of competition that the successful essay or a copy of it shall remain in possession of the College; other essays will be returned upon application within three months after the award.

The Alvarenga Prize for 1892, has been awarded to Dr. R. H. L. Bibb, of Saltillo, Mexico, for his Essay entitled "Observations on the Nature of Leprosy."

The Clinical Teaching of Insanity in Public Hospitals for the Insane.—The New York State Commission in Lunacy, of which Carlos F. MacDonald, M. D., is President, has issued the following important circular on this important subject:

TO MANAGERS OF STATE HOSPITALS:

The Association of Medical Superintendents of American Institutions for the Insane, at its annual meeting, held at Toronto, Canada, in 1871, adopted the following resolutions:

RESOLVED, That in view of the frequency of mental disorders among people of all classes, and in recognition of the fact that the first care of nearly all these cases necessarily devolves upon physicians engaged in general practice, and this at a period when sound

views of the disease and judicious modes of treatment are specially important,--it is the unanimous opinion of this Association that in every school conferring medical degrees, there should be delivered, by competent professors, a complete course of lectures on insanity and on medical jurisprudence, as connected with disorders of the mind.

Resolved, That these lectures should be delivered before all the students attending these schools, and that no one should be allowed to graduate without as thorough an examination on these subjects as on the other branches taught in the schools.

Resolved, That in connection with these lectures, whenever practicable, there should be clinical instruction, so arranged that, while giving the student practical illustrations of the different forms of insanity and the effects of treatment, it should in no way be detrimental to the patients.

Since the adoption of the foregoing resolutions public sentiment has become more pronounced in favor of carrying out their purpose and spirit.

The fact that insanity is far more frequent and more serious than many other diseases, with the nature and symptoms of which medical students are required to possess a practical familiarity before being permitted to graduate, renders it of the highest importance to the public that a wider diffusion of correct knowledge of the disease and of its proper management, particularly in its early and most curable stage, should obtain among the medical profession. This is especially important in view of the fact that in a large majority of cases the presence of the disease, in the first instance, must necessarily be determined by the general practitioner--usually the family physician.

Citizens of the State, of all classes, could not fail to derive benefit from the diffusion of a more practical knowledge of the subject among the medical profession. The recognized want of such knowledge is largely due to the fact, that, with few exceptions, it is only within a comparatively recent period that this important branch of medical science has been systematically taught in medical schools. Furthermore, it is well known that but few of the medical schools wherein such teaching is now given are able to procure the necessary material for clinical nstruction in psychiatry, outside of hospitals for the insane; and inasmuch as it is only from public institutions that this material can be drawn, it would seem that no greater objection could justly be raised to the giving of such instruction, under proper restrictions, in hospitals and asylums for the insane than to the clinical teaching of other branches of medicine in general hospitals, a practice which now extensively prevails throughout the civilized world.

As there are large numbers of patients in the public hospitals for the insane who would offer no objection to the giving of clinical instruction to students of medicine in their presence, the Commission would earnestly recommend that the boards of managers of the several State hospitals afford to medical colleges situated in their vicinity, as well as

to practicing physicians who may desire to prevail themselves of the privilege, such faculties for the clinical study of mental diseases as in the judgment of the medical superintendent may be deemed wise and proper.

Questions of the Code; Advertising. While it is undoubtedly, as the Code enjoins, derogatory to professional dignity to resort to private cards or public handbills, inviting public attention to special skill in the treatment of particular diseases, it is certainly an unwise policy, and at variance with the dictates of common sense to so construe the Code, or to amend it so as to debar regular physicians from decently, delicately and properly advertising their calling to the public.

When the Code is revised it should be explicit on this subject, and prescribe what form of public announcements should be deemed proper, and denounce in plain terms what should be considered indelicate and unprofessional advertising, but it should not commit the folly of saying doctors may go into business, but must not make themselves known.

While the method of the quacks should not be countenanced in the Code, there is no good reason why the qualifications of physicians should not be made public in a decent, delicate way. On the contrary there is the best of reasons, based on the demand of humanity and personal and professional interest—individual and collective—why a decent form of advertising should not be countenanced and encouraged. The best qualified physicians owe to humanity a debt to make themselves and their qualifications to alleviate suffering known. Humanity demands this.

Why should charlatanry be allowed to have the ear of the public and not scientific medicine? Cannot regular medicine set an example of decent, delicate, modest advertising, consistent with professional dignity and honor which would enable a discriminating public to see the true from the false, and thus discountenance, the shameful quackery that now afflicts the people.

Why should a reputable young physician spend years of study, and through toil receive professional honors, and then be enjoined to conceal his special fitness from a suffering public in need of his skill? Of what use are honors and experience if they may not be made known? What is there indelicate or unprofessional in a young

man publicly announcing his *alma mater*, more than there is in his *alma mater* making public announcement of his graduation. What harm is there in his telling where, and under what masters he studied, or in what hospital he has served or what his preferences in practice are?

Common sense and the general public judgment would approve of a policy that permitted the public to know more of its physicians before being compelled to first try them to find them out.

A wise and generous policy in the amended Code towards the young physician, allowing him to make known, in a delicate and legitimate way, his fitness to practice, such as his hospital experience, place of graduation, location and special line of preferred practice would enlighten the public, encourage ambition in students to seek medical college and hospital distinction before beginning to practice, and shame quackery and its votaries by the real sensible modesty of true merit, at the same time the public would know where to find its best young doctors.

A legitimate and delicate form of public advertising approved by the revised Code would diminish the numberless disreputable devices to which doctors now resort for success. The painfully pious doctor, the church doctor, the club doctor, the insurance society doctor, the cheap insurance company and railroad doctor, the hotel doctor, the free dispensary and free clinic doctor with college attachment, the free hospital doctor, the proprietary and mineral water certificate doctor, the newspaper doctor, the charity and semi-charity doctor of every kind and the small college professor, would be less numerous than now. The little medical editor with his pop-gun boom, and the small specialist would become scarcer than now under honest, decent, legitimate, square Code-tolerated advertising. Much of the shameful trickery of the trade to secure practice would then disappear from our ranks.

But best of all, the jealous and unseemly rivalries, now existing in our profession would be reduced to almost nothing.

Let the new provision in this subject be something like this: While it is derogatory to professional dignity to resort to the ordinary fulsome methods of the quacks, it shall not be considered unprofessional for a regular

physician to publicly announce in a modest way his calling, the place of his graduation, his preceptor, his hospital experience or his special line of practice, on his card or through the press, but it shall be deemed highly unprofessional as it is in the highest degree indelicate to proclaim extraordinary skill through public handbills, private cards or the public press, or to resort to the ordinary newspaper devices of quacks, such as "advice free, no cure no pay, charge for medicine only," or to make any promises that are not of probable fulfilment, or to resort to any of the common trade methods of success, such as "runners" and commissions on patients procured, etc., etc.

What we should encourage is honesty in the dealing of doctors with the public. Square, truthful, common sense, delicate, decent method of making our meritorious young doctors, so that the true dignity of the profession is not degraded, the public may know who are the really best physicians, what they can really do, and where they may be found, and they should be enabled to get all proper knowledge of good physicians, and learn through the public press to seek the true physician rather than the quack. Scientific medicine gives quackery too great advantage by failing to provide a proper means by which it may reach where even quackery does, through the public press.

The press is too great a lever to be given over entirely to the empirics. There is no wisdom in the professional policy that enjoins this, and as a matter of fact, the Code does not enjoin this. It only says it is derogatory to professional dignity to publish cards or handbills, calling attention to special skill in particular diseases. It justly condemns such methods as the ordinary devices of quacks.

It would be wiser, even if the Code enjoined for all competent physicians to properly make themselves known to the public by writing, by delicately-worded cards, etc., than to give this field over to the quacks. The disintegration of practice into special work, the reliance of the people on the public press and the demands of the present age, differ essentially from those of the past when the code was framed.

We stand for and by the code, but we ask an enlightened and timely revision, and that no dead letter provisions be allowed to remain in it.

Hallucinations.—Dr. E. Laurent states that under the influence (*Revue de Biblio. Med.*, Nov. 10, 1892) of an abstracting thought, weak minds may create hallucinations by auto-suggestion, and if they be in contact with persons easily influenced by suggestion, may communicate to these last their hallucinations.

The American Orthopedic Association, at the recent meeting held in New York, September 20, 21 and 22, 1892, elected the following officers: President, Dr. A. J. Steele, St. Louis; Vice-Presidents, Dr. Samuel Ketch, New York, Dr. Arthur J. Gillette, St. Paul; Treasurer, Dr. A. B. Judson, New York; Secretary, Dr. John Ridlon, 34 Washington St., Chicago. The next annual meeting will be held in St. Louis, the third week in September, 1893. We congratulate the Association on the selection of Dr. Steele. The Association may be assured of a hearty welcome by the profession of St. Louis.

The Atlas der Pathologischen Histologie dis Nervensystems, edited by Dr. Hirschwald, of Berlin, is now in press. We promised our friend Dr. E. A. Homia, of Helsingfors, Finland, to notice the same on of reception of the first copy. The absence from our pages a more satisfactory reference to the undoubtedly valuable work is due to the fact that the first number has not come to hand from the publisher.

A Lunatic Wit.—A famous surgeon went once to see a lunatic in a private asylum, and in passing through a corridor, he was thus accosted by one of the patients: "Take off your hat, sir!" "Why should I?" he asked. "Because I am the son of the Emperor of the French." "Oh, I beg your Royal Highness' pardon," apologized my friend, taking his hat off. On revisiting the asylum a month or so later he was again accosted in the same corridor by the son of the Emperor of the French and in the same words: "Take of your hat, sir." "Why?" asked my friend. "Because I am the son of the Emperor of Germany" "Surely, when last I had the honor to see your Royal Highness you were the son of the Emperor of French?" "Ah, yes," he added, "That was by another mother."

Foster's Text-Book of Physiology is soon to be supplemented by the issue of an appendix on "The Chemical Basis of the Animal Body," by A. Sheridan Lea, Sc. D., F. R. S., Lecturer on Physiology in the University of Cambridge, England.

The late Dr. A. H. Knapp was born in the State of New York and in his nineteenth year entered Rush Medical College as a student, graduating in 1852. Ten years later he was appointed medical examiner of drafted men by the then war governor of New York, Reuben E. Fenton, with the rank of major. After practicing his profession in his native state for twenty years, he removed to Ottawa, Kansas. In 1873, he was appointed superintendent of the State Insane Asylum at Ottawatomie. He was a remarkable man, a stern, strict disciplinarian, performing his duties faithfully and conscientiously, and exacted the same the measure of faithfulness from those that were employed under him. To the unfortunate patients who were committed to his care he was humane and tender-hearted as a woman.

His annual reports bore evidence of care and of a knowledge of practical affairs combined with a ripe learning of his profession. His domestic life was more than ordinarily happy. Retiring from asylum life a few months ago he took up his residence in Ottawa. His home was a beautiful one and his friends always received a cordial welcome. He was happy in his home, devoted to his family and true as steel to his friends. He was Vice-President of the Farmers and Mechanics' Bank, of Ottawa, Kansas, where he resided at the time of his death.

Dr. Frank C. Hoyt, First Assistant of the Missouri State Insane Asylum, at St. Joseph, has been appointed Superintendent of the Iowa State Insane Asylum, at Clarinda.

HOSPITAL NOTES.

THE McLEAN ASYLUM FOR THE INSANE, which has for over seventy years been in Somerville, is soon to be removed to Waverley. The construction of the new buildings has already begun. A memorial building has recently been offered by Mr. George P. Upham, in memory of his son George P. Upham, Jr., who died a little over a year ago. The building has been designed by Mr. William Y. Peters. It is colonial in character. The dimensions of the whole are about eighty-five by one hundred feet. The interior contains nine suites, each consisting of a sitting-room, bed-room, bath-room and closets, two private halls, reception-rooms, a dining-room, a billiard-room and a Turkish bath for patients, and provision for nurses and attendants, as well as for heating, cooking and all domestic service.

IN MEMORIAM.

DR. THEODOR MEYNERT.—Among the great dead of the past year, Meynert is the one which will be most deplored in the psychiatric world. Meynert came of a family of artists. He himself had artistic tastes and inclinations, and it was this natural gift transmitted by heredity and cultivated by genial surroundings which helped to shape his researches of the structure and functions of the brain. Contrary to the often dreary methods of the anatomist, he studied the imposing structure of the organ of the mind, as a modern architect would the marvelous edifices of the ancients, trying to trace out not only the building material and the connecting hallways and passages, but, above all, the object, the intents and purposes which the original builders had in mind.

His great skill as a practical microscopist enabled him to successfully search the brain at a time when the razor still reigned supreme and the section-cutter, although invented and in existence in a primitive form, was looked upon with distrust and disdain by the great workers of those days.

It is Meynert whose manual skill enabled him to demonstrate as the first, the complex structure of the cerebral cortex, its cells and layers. Although more than twenty years have elapsed since the drawing of the microscopical appearance of the cortex was published in Stricker's book on "Microscopical Anatomy," that remarkable repository of the most fundamental micro-anatomical researches of all times, it is still reproduced in nearly all the text-books, anatomical as well as clinical, and this, in spite of the fact that the staining methods have within the last ten or twelve years undergone a radical change.

This masterful technique, the keen eye and the artistic and architectural genius, all combined, enabled him to find paths in the seemingly inextricable maze of fibers, which before him were not thought of. Meynert created order where chaos seemed to reign before. The surface of the brain appeared to the anatomists of former generations like a plate of macaroni, until embryology and comparative anatomy enabled investigators to

see type and regularity; so with the interior of the brain before and after Meynert.

The results of these researches enabled him to establish and successfully defend his hypothesis of the mechanism which obtains in the process of thinking.

According to this hypothesis the whole surface of the body is "projected" in its several qualities on the brain's surface, *i. e.*, its cortical covering. The ganglionic cells of the cortex have the power of storing up the several impressions received from the periphery of the body as "memory images." These cells lie together in clusters or groups according to the qualities of the impressions they receive and store up for future use. By an extremely complicated network of fibers these storage-cells are connected together and through these associative fibers stimulative processes are communicated from one cell, or group of cells, to others. This process of cell association brought about by stimulation was to him identical with the psychological process.

It is not to be wondered at that this mechanical explanation of the greatest of all problems of life, met with a ready acceptance on the part of the medical profession and, especially owing to its easy comprehensibility, with the educated lay public, whilst many of the psychiatric guild proper assumed the attitude of cool reserve. Whatever the future may decide on this question (which by many is held insolvable and coming under the head of the *Ignorabimus*) it is impossible to deny that the conception of the ganglionic cortical cells as an histological and functional unit is a very ingenious and plausible one.

In accordance with this anatomical trend on the part of Meynert to explain psychical processes, he wrote a unique work on the "Diseases of the Forebrain,"* which considering the quaint and often unfathomable phraseology so characteristic of all of Meynert's publications has been very creditably translated by B. Sachs, of New York. It cannot be said that this work, aside from a very few advanced psychiatrists, has made many friends. Its very profundity is a bar to its popularity. But the anatomical data and notions, together with the lofty conceptions presented in it will entitle it to the position as one of the grandest monuments of anatomical research

* Erkrankungen des Vorderhirns, begruenbet ouf dessen Rau, Leistungen und Ernaehrung. Wien 1884.

and bold physiological combination. The second volume has not been completed by the author. It would have been interesting to watch to what extent psychiatry, as such could be made to conform to the author's anatomical and physiological conceptions as detailed in the first and only volume.

In a volume of Lectures on Psychiatry,* he has tried to conform to the programme laid out in the volume just referred to, but in the preface he takes pains to state that these lectures are not to serve in lieu of the belated and still preparing second volume of the "Diseases of the Forebrain."

On this occasion he once more emphasizes the ideas which he has taught in the lecture room and has tried to popularize among medical men by a number of addresses delivered at their periodical meetings. He reiterates that the diseases of the forebrain constitute the subject-matter of psychiatry, and that this branch of medicine begins with, and rests upon, a minute knowledge of the anatomy and physiology of the brain. Although the foremost of all the investigators of cortical anatomy, he warns against a narrow and one-sided insistance on the cortical organ to the exclusion of the brain-stem or infracortical ganglia, when mental diseases are essayed to be anatomically explained. He once more urges the social independence of the cortical ganglionic cells, their connection and communication by fibers, and denies, as he had repeatedly done before, the existence of inborn thoughts, commonly comprised under the name of instinct. There are no ideagenous centers. Every thinking process or action based on it, directly or indirectly, with or without consciousness, is the result of action and interaction of the cortical ganglionic cells in which the memory images, conveyed from the periphery by afferent nerves, are preserved. The object of psychiatry is not only to know the forms of mental disturbances, but to understand and explain them. To this end the physiological experiment does not suffice, although it is of prime importance. Much light is to be expected from the study of minute anatomy and the laws of nutrition.

One of the most widely known of Meynert's teachings is the twofold origin of the spinal cord, one from the tegmental ganglia, serving principally the reflex functions; the other from the pes pedunculi, connecting

* Klinische Vorlesungen ueber Psychiatrie. Wien, 1890.

directly the cerebral hemisphere with the periphery. Whether his vasomotor theory as an explanation of normal and abnormal psychical processes will stand the test of time, is a matter which awaits settlement. Thinking, according to Meynert, is a synthetic chemical process taking place, as noted before, in the ganglionic cortical cells. The greater or lesser functional activity of these cells is determined by the greater or lesser amount of plasma at the disposal for absorption. The amount of this nutritive plasma absorbed by the ganglionic cells constitutes the amount of their activity, the vividness of the memory images awakened, and the rapidity and extent of association with other ganglionic cells. The greater or lesser extent of this process is under the influence of the vasomotor centers situated in the brain-stem. Hyperæmia means increased anæmia, diminished thought. This theory applies also to the explanation of some morbid mental conditions.

Very plausible is, furthermore, his conception of the primary and secondary ego. The former has its seat in the infracortical portions of the brain, the brain-stem. The latter resides in the brain mantle, the forebrain, or more specifically expressed, the cortex of the great hemispheres. According as the brain-stem (primary brain) or the great hemispheres (secondary brain) preponderate in mass and function, the primary or secondary ego will have precedence. In the primary brain reside the coarsely egotistical, parasitical functions, whilst the secondary ego, *i. e.*, the better and nobler self has its seat in the hemispheres.

The teachings of evolution and comparative anatomy were often called to aid by Meynert to prove and elucidate his views on this subject.

Meynert died comparatively young. He only reached his fifty-eighth year. Nobody that saw the pleasant and congenial man at the International Congress at Berlin, where he was among the most honored of all participants, would have thought that the grim destroyer was preparing for the fatal stroke.

However future generations may judge Meynert's teachings, one thing is certain—he was the greatest brain anatomist of all times.

L. Bremer.

REVIEWS, BOOK NOTICES, ETC.

TUBERCULOSIS OF BONES AND JOINTS. By N. Senn, M. D., Ph. D., Chicago, Ill. The F. A. Davis Co., Publishers, Philadelphia and London. 1892.

Every page of this interesting volume bears the impress of the author's acknowledged industry and genius. The text is profusely illustrated with appropriate plates from Koch, Baumgarten, Fränkel, Volkmann, Pfeiffer, Hamilton, Green, Cornil and Rauvier, König, Krause, Marie, Sayre, Bryant, Barwell, Langenbeck, Roberts, Louenstein, Gluck, Heuter, Ollier, Mackenzie, Girard, White, Esmarch, Liter, Marie, Mikulicz-Wladimiroff, and the Author, showing the relationship of the tubercular bacilli to the various tissue changes, the morbid structure changes in molecule and in mass and the various operative procedures and appliances of this branch of modern surgery.

Discussing the microscopical changes of diseased tissue, the author asserts (italicising the assertion), that "coagulation necrosis and caseation of the inflammatory product takes place, slower, but with the same regularity in tubercular products in bone and joints as in pulmonary phthisis. The very fact that the inflammatory product in bone and joint tuberculosis presents the same histological structure, and is subject to the same pathological changes as tubercle in the lungs, warrants the assertion that they are produced by the same cause and undergo analogous degenerative processes," and concerning the reaction to tuberculin, he remarks as follows:

"One of the benefits derived from the treatment of tubercular affections with Koch's lymph is the knowledge gained, that tubercular affections of bone and joints react under the use of tuberculin in the same manner and with the same promptness as tubercular lesions in the lungs. The general reaction is often very intense, as I have observed a temperature of nearly 106° F. six hours after injection of 5 milligrammes of tuberculin in a case of uncomplicated synovial tuberculosis in a girl 18 years of age, who had a normal temperature before the injection was made. The local reaction is prompt, and sets in within twelve hours after the administration of the remedy, and consists of swelling, increased pain, and tenderness,—in fact, the substitution of a brief acute attack in place of the chronic inflammation."

The author lays special stress on the following statements, viz:

The product of tubercular inflammation acts as an irritant, and produces an inflammation of a chronic type in its immediate vicinity.

The absolute ischæmia of the tubercular product is one of the conditions which determines speedy death of the cellular elements, coagulation necrosis, caseation, and liquefaction of the dead material.

The connective tissue is the principal histological source of the cellular elements of the tubercular products, irrespective of the anatomical location of the inflammation.

In bone, the medullary tissue, being a lymphoid structure, is acted upon by the tubercle bacilli, and furnishes the corpuscular elements of the inflammatory product, if the process is extra-vascular, while the endothelial cells and connective tissue of the blood-vessels are the structures first acted upon in tubercles of this structure of endovascular origin. In primary tuberculosis of joints the synovial membrane is first affected, and the process extends from here to the subjacent cartilage and bone.

The tissues primarily affected are the cells which are nearest the essential microbic cause, irrespective of their embryological orgin, their histological structure, or physiological function. The mesoblastic tissues are the primary starting-point of the tubercular process, in the majority of cases, for the reason that it is here that localization of the tubercle bacillus takes place most frequently.

From the manner of entrance into and diffusion through the tissues, it is apparent that the mesoblastic tissues, especially the connective tissues and endothelial cells, being the first to become infected, furnish the greatest amount of the new material in most tubercular lesions; but all tissues, when infected, take part in the process.

Early death of cells is the most characteristic pathological feature of tubercle, which distinguishes it from all other forms of chronic inflammation.

The angioblasts in the infected area are transformed into epithelioid cells that have lost permanently their intrinsic anatomical structure and physiological function.

Caseation is something different from ordinary fatty degeneration, and the bacillus of tuberculosis or its ptomaines must be regarded as its immediate and essential cause.

The coagulation necrosis commences in the giant-cells and in the epithelioid cells in the center of the nodule, and caseation follows as soon as the dead cells have lost their histological identity and appear under the microscope as a *debris*, in which no distinct cell-forms can be identified.

We have not space to further transcribe the author to our pages, but can assure the general reader that he will be well repaid for the perusal of the book and the surgical practitioner that it will prove especially profitable to him.

Like all other surgical writers of our day, the author fails to take proper account of the part played by a defective neural mechanism in permitting the *mal atrophic* changes, which constitute tuberculosis of the joints, for in a physiologically resistant trophic nervous system resides the *vis medicatrix naturæ* that makes resistance to tubercular destruction and recovery possible, and without which operative procedure proves so often futile.

A Treatise on Nervous and Mental Diseases. By Landon Carter Gray, M. D., Professor of Nervous and Mental Diseases in the New York Polyclinic, Ex-President of the American Neurological Association, etc. In one very handsome octavo volume of 681 pages, with 168 fine engravings. Cloth, $4.50; leather, $5.50. Lea Brothers & Co., Philadelphia. 1893.

From the preface, and from an examination of this book, we learn that it is an endeavor to put a working knowledge of nervous and mental diseases into the hands of students and practitioners, and in this praiseworthy undertaking the author has admirably succeeded. In the selection and clinical verification of facts, the author states, the leisure of seven years has been devoted. Keenly appreciating the patient toil of the scientist, to whom we owe most of our knowledge, the author holds the task of the physician in yet higher esteem, and hence this volume is addressed especially to the general practitioner, present or future, and its theme is rigidly therapeutical. The space assigned to the several diseases is determined by the needs of the profession at large, a consideration which has made the chapter on Neurasthenia the largest in the book. Mental diseases are considered from the stand-point of the general physician, since the outcome will often depend on his skill in early recognition and treatment. The author has endeavored to indicate what diseases of the mind may be best treated at home, what may need both home and asylum treatment, and the period of committal, and what may require seclusion from the outset; and he discusses the medico-legal aspects of nervous and mental diseases.

Especial care has been taken to make the therapeutical suggestions sufficiently precise to cover the varying stages, symptoms and complications of disease, as well as to follow the important indications afforded by differential diagnosis. In the chapters on Mental Diseases, the most approved treatment is stated, and likewise the results to be expected.

Students will find the terminology rendered easy of acquisition by the derivations and definitions given in the Glossary. Throughout the volume simple Anglo-Saxon terms and familiar synonyms have been preferred. The limits of the book have rendered necessary a certain degree of terseness, but those who are desirous of further investigation will find a full bibliography appended to each chapter. The author has made liberal use of illustrations, many of which are original and some of which are peculiarly instructive. Without special note of the deficiencies of this book, we may say that its merits more than counterbalance all demerits, and commend it to the practitioner and student, while it is likewise, in its essential features, highly creditable to American neurology. The author has given fair credit to many American neurologists, but not proper credit to others. Some of his chapters are far too incomplete, notably that on athetosis and double athetosis, his discussion of cerebral hyperæmia and his treatment and classification of insanity. These, and the subjects of insanity and neurasthenia, are open to criticism. Nevertheless, these strictures do not detract from the

above commendation. All books, like all authors, have their faults. Only the Divine Book and the angels may be regarded as faultless. The author does not discuss the nature and treatment of stammering neurosis in which he is said to be especially expert.

THE BRITISH GUIANA MEDICAL ANNUAL AND HOSPITAL REPORTS, Edited by J. S. Wallbridge, M. R. C. S., and E. D. Rowland, M. B. (Edin.) Demerara, 1892.

British Guiana affords a good field for anthropological observation and medical inquiry. A wide, tropical country, thinly peopled, the working population consisting mainly of negroes and Indian coolies. The importation of laborers from India to the West Indies will not fail to have its influence on the New World. In a few generations the West Indies will be peopled from the East. The benevolent regulations of the British Government for the care of the coolies render labor somewhat dear, so that, in spite of the fine quality of Demerara sugar, planting is not paying very well. The most notable peculiarity in British Guiana is the prevalenee of Bright's disease. This forms the subject of a paper by Dr. E. D Rowland, in the volume under review. The frequency of renal disease was first pointed out in 1881 by Dr. Grieve, now Surgeon-General to the colonies. Dr. Rowland attributes this extraordinary prevalence of degeneration of the kidneys to malarious poisoning. We are not disposed to deny a relation between malaria and Bright's disease, but the *nexus* seems not yet well made out. It is known that malaria may occur without any prevalence of renal disease, as in India, and Bright's disease is not uncommon in countries where malaria scarcely exists.

In the preceding Medical Annual (for 1891), Dr. Thomas Ireland pointed out a form of insanity connected with atrophy of the kidneys. The patients have passed into mild dementia with no acute stage of insanity, or one so slight as to have escaped notice, as if the functions of the brain were gradually impaired by the altered condition of the blood. The patients are dull and indifferent to their surroundings. They exhibit impairment of memory and apprehensive power, and have occasionally delusions or hallucinations which never excite them much. In the present Annual he mentions that he only saw two healthy kidneys on the pathological table during the year. These came from an idiot boy of thirteen years of age, who died from exhaustion after repeated epileptic fits. Dr. Ireland has tried methylene blue in the treatment of malarious fever, but with llttle success. Dr. T. Ireland has a paper upon some cases of General Paralysis of the Insane. This disease occasionally occurs in the negro, but "seldom or never in the coolie, who, like the felaheen of Egypt and the outdoor laborer of other Eastern countries, seems to enjoy almost complete immunity." The mental symptoms do not present exactly the same type occurring amongst people who do not suffer much from mental anxiety, as it is easy to earn a living in Guiana; extravagant ideas are not so prominent. The general course of the disease is much the same as in other countries, though on the whole,

perhaps convulsions are less common. The *post-mortem* appearances vary little as regards the brain. The changes in the membranes are in all respects typical. The liver and kidneys are invariably diseased. He describes six cases of general paralysis, the first being a negress, aged 30.

Dr. T. Ireland has another paper on the Pathological appearances he found in those who died at the Public Lunatic Asylum at Berbice.

The number of deaths was seventy, giving a percentage of a fraction over ten on the average number of patients daily resident. This shows a lower mortality than prevails in many of the English asylums, in spite of their much more healthful surroundings. As usual, Bright's disease or cirrhosis of the liver and kidney, was the most frequent cause of death, proving fatal in eleven males and fourteen females.

Dr. P. B. T. Stephenson has an interesting paper, entitled "Notes on Physique." In the British non-laboring class the mean height is 69 inches, and the weight 165 pounds; in the laboring class, 66½ inches and 140 pounds. The negro in Guiana has almost the same height and weight as the British laborer, but the coolie is 2 inches shorter and 22 pounds lighter. These coolies, it ought to be borne in mind, principally come from the Eastern coast of India, where the people are much inferior in physique to the inhabitants of Oude Roblicund and the Northwest. Dr. Stephenson has made some painstaking observations on the loss of bodily weight in acute mental disease. He finds that the wasting is greater in mania than in melancholia, the average difference being five pounds. "A gain in weight coincident with mental improvement is most hopeful, while increase in weight without this is of bad omen, and indicates the onset of dementia."

We have naturally called the attention of our readers to the papers which have to do with insanity, but to most medical men these will scarcely be the most interesting in the book. A valuable contribution to our knowledge, is the "History of the Leper Hospital," by Dr. W. S. Barnes. He holds that leprosy is rarely, if ever, communicated by contagion, and that there is no sufficient warrant for secluding lepers. In this view, Dr. Barnes is supported by Dr. Grieve. In his address to the British Guiana Branch of the British Medical Association, the Surgeon-General defends quarantine as applied to the colony.

In a paper on "Anchylostomiasis," Dr. J. E. A. Ferguson describes the anchylostoma duodenale, a nematoid parasite introduced fromIndia, which is a cause of much ill-health and many deaths amongst the coolies and negroes in British Guiana. Altogether, the volume, which contains 224 pages, is full of useful and interesting matter,and reflects much credit upon the medical officers of the colony.

MANUAL OF PRACTICAL, MEDICAL AND PHYSIOLOGICAL CHEMISTRY, with Illustrations.—By Charles E. Pellew, E. M. New York, 1882. D. Appleton & Co.

This book is an enlarged and revised edition of a pamphlet that has formed, for some years, the basis of the author's course of laboratory

work at the College of Physicians and Surgeons at New York. It will be found to be a first-class aid for college instruction, as well as for private studies, and will also do good service as a reference book for practitioners. The author has endeavored to give everything in as positive a form as possible, and avoid entering into the discussion of doubtful points. The matter is arranged in thirty chapters, each of which contains a theoretical, or descriptive part, and a guide to the corresponding laboratory experiments. The last five chapters are given to the microscopical examination of urine, and although this does not properly fall under the scope of the book, it is a valuable addition. The student may take up this subject in connection with his clinical studies, as well as with his clinical work proper. The illustrations are most carefully executed. Most of them represent microscopical objects, like crystals, blood-corpuscles, bacteria, etc. Quite a number are diagrams of instruments: a few are of a histological character.

In a few points we disagree with the author. If F. I. Cantani, a man that is famous for his studies on cholera, asserts that he found the blood acid during life in the last stages of that disease, what entitles the author to say "this, however, is exceedingly improbable?" Some erroneous statements occur in the chapters on Analysis of the Urine. It is incorrect, *f. i.*, that a deposit of phosphates appears in alkaline urine only. It may often be seen in amphoteric and even in weakly acid urine. In a sample of urine that contained a large excess of phosphates, I saw them a few days ago falling down and forming a copious sediment, although the urine was decidedly acid from the influence of drugs that have been administered. T.

A Manual of Medical Jurisprudence. By Alfred Swain Taylor, M. D., F. R. S., revised and edited by Thomas Stevenson, M. D., London. Eleventh American edition, with citations and additions from the twelfth English edition, by Clark Bell, Esq , President of the American International Medico-Legal Congress of 1893. 787 pages, 56 illustrations. Price, cloth, $4.50; sheep, $5.50. Lea Brothers & Co., Phila., 1892.

The present volume is a decided improvement on all previous editions.

To justify the claim of this work to continued general professional favor, it is sufficient to announce that it is revised and edited by Dr. Thomas Stevenson, of London, and our fellow-citizen and medico-legal colleague, Clark Bell, Esq., of the New York bar, ex-president of the Medico-Legal Society of New York; president of the American International Medico-Legal Congress of 1893, etc.

This edition, as announced in the preface, is an entire revision of all prior American and London editions, and includes the admirable work with which Dr. Stevenson has enriched the Twelfth English edition.

Much new matter has been added, many portions of the work have been amended, and some parts have been re-written. In making additions upon legal questions and the present state of the law bearing on medico-legal matters, the editor has carefully cited nearly 700 cases and

authorities to aid counsel in preparing briefs, and to extend the sources of information for medico-legal jurists.

While there is still room for much improvement in the domain of psychological and neurological medicine in this book, notably in discussing the question of the affective forms of insanity, or so-called moral insanity, where mental aberration is revealed rather in morbid feeling and action and *delusive impulsions* of conduct than in *apparent* intellectual derangement, the lesion of the intellect being more an inference from the erratic and aberrant speech and conduct than a demonstration or inference from tests applied to the intellectual capacity independently of the conduct. The condition of moral insanity, whatever may be thought of the term, is a clinical fact in psychiatry.

The effects of injuries to the brain and spine, and concussion are altogether too meagerly and inadequately described.

The extensive subjects of railway spine, railway hysteria and neurasthenia, fright neuroses, the classical neuropathies and the simulation of insanity by the insane, are not touched upon in the book anywhere that we can discern, except by inference.

This is a glaring defect. Nevertheless, the book is a decided improvement on all previous editions, and its utility over all of its predecessors has been much improved by the revised form in which it now appears.

THE PHYSICIANS' VISITING LIST (Lindsay and Blakiston's), published annually. P. Blakiston, Son & Co., Publishers, Booksellers and Importers Medical and Scientific Books, 1012 Walnut Street, Phila.

This valuable little memorandum book is on our table. It is indispensable to the physician.

The U. S. Pharmacopœia, 1890, which will be published during 1893, adopts in great measure the Metric System of Weights and Measures. This will doubtless create much confusion in the minds of physicians and druggists, and lead to many misunderstandings and errors. In order to provide a guide to the propor dosage, etc., Dr. Geo. M. Gould, author of "The New Medical Dictionary," has prepared a very complete table of the Officinal and Un-officinal Drugs, with doses in both the Metric and English systems. This table is published in P. Blakiston, Son & Co.'s "Physicians' Visiting List," for 1893, together with a short description of the Metric System.

CRIMINOLOGY. By Arthur MacDonald, Specialist in Education as Related to the Abnormal and Weakling Classes, U. S. Bureau of Education; member of the Anthropological Society, Washington, D C., etc., etc., with an introduction by Dr. Cesare Lombroso, Professor of Legal Medicine at the University of Turin, Italy. Funk & Wagnalls Company, Publishers, New York.

This is an interesting and instructive presentation of a subject still too much ignored in law, medicine and literature. The doctor, the jurist and the public have yet much to learn of the fated relationship of defective organism to crime. The physical side of the criminal, and

the psychology and evolution of crime, criminal contagion and criminal hypnotism, are subjects for the century. The facts put forth in this book and in the pioneer work of Cesare Lombroso, to whom the author dedicates his work, are "not without importance to the magistrate, the moralist and the philosopher."

The chapter on Recidivation is a revelation of the callousness of feeling and want of moral sense among habitual criminals, more than one-third of all such criminals, as the author shows, being without remorse.

The book is a valuable addition to the literature of crime. The interesting text, the introduction by Lombroso, and the extensive bibliography of the subject given by the author, altogether make a volume which will be sought and read by all students of criminal anthropology.

ADDRESSES AND ESSAYS. By G. Frank Lydston, M. D. (Second Edition, Revised and Enlarged.) Published by Renz & Henry, Louisville, Ky.

In these essays Frank Lydston reveals himself to the reading medical public as he is known to his many professional friends, as a talented and accurate observer and clear thinker, and his deductions from his observations, as well as his therapeutic conclusions, are in accord with the common sense of the profession. His chapter on the "Rationale of Extension in Diseases of the Spinal Cord, with Methods for Securing the Same," will be read with special interest by the many readers of the ALIENIST AND NEUROLOGIST, even though his deductions may not be acquiesced in; as will also, "A Study of a Series of Degenerate and Criminal Crania," the substance of which, with somewhat more extended deductions, appeared originally in the pages of this journal. "The Urethral and Genital Neuroses," will also be found to be an interesting chapter to neurologists. The book is worthy a place in any medical library.

LES TROUBLES DE LA MARCHE DANS LES MALADIES NERVEUSES. Par Paul Blocq, Chef des Travant anatomo-pathologiquos a la Salpetriere Avic 21 figures intercalie dans le teate. Rueff & Cie., editeurs, Paris.

Bibliotheque Médicale, publicé sous la direction de Messrs. les professeurs Charcot et Debove (volumes in 16, reliure d'amateur, tete dorée, prix, $3.50. Librairie Rueff et Cie, 106 Boul'd St. Germain, Paris. Dernier Vol. par. II.

The most characteristic forms of gait connected with some of the most prominent nervous diseases are as well-known to every physician as their value in diagnosing these diseases. It is often the gait of a patient presenting himself for examination that directs our attention to the nature of the trouble, as *f. i.*, in locomotor ataxia, in spastic paralysis, etc. Mr. Blocq's little book—which forms a volume of the "Bibliotheque Medicale," published under the direction of Charcot and Debove—gives

a complete analysis of these multiform pathological phenomena, and forms a valuable supplement to every hand-book of nervous diseases, and a precious addition to every medical library. The author first considers the normal gait that has only lately been studied and understood completely, by means of improved graphic methods and instantaneous photography. He next runs over the nervous diseases which give rise to disturbances of gait, and classifies the latter from the pathogenic and from the clinical points of view. This is followed by the two chapters that are the most valuable from the practical stand-point, containing a minute description of the different forms of abnormal gait, and an analysis of their clinical value. The illustrations mostly consist of diagrams representing the foot-prints of patients that have been made to walk—with blackened soles or prepared in some other way—on strips of paper along a straight line. The last chapter—on treatment—is naturally very short, no special treatment of these troubles being of any particular value. T.

SYPHILIS, IN ANCIENT AND PREHISTORIC TIMES. By Dr. F. Boret, of Paris, France, translated from the French by our fellow-citizen and dermatological colleague, Dr. A. H. Ohmann-Dumesnil, Professor of Dermatology in the St. Louis College of Physicians and Surgeons.

This is a scholarly and accurate account of this cosmopolitan disease among our remote ancestors. The work of the distinguished author is classically and completely done, and nothing is lacking in the work of the able and accomplished translator to make the book entertaining and instructive to both professional and lay reader. The book is as indispensable to the student of history as it is to syphilographer and physician, and the pure *litterateur* will find in its pages entertaining reading both in author's text and in his elaborate quotations from the Latin writers of antiquity.

This interesting book is one of the Physicians' and Students' Ready-Reference Series of F. A. Davis, Publishers, Philadelphia and London.

PRACTICE OF MEDICINE. By Edwin T. Doubleday. M. D., member of N. Y. Pathological Society, and J. D. Nagel, M. D., member of N. Y. County Medical Association. $1.00.

This volume on Practice of Medicine is Number 6 of the new "Students' Quiz Series," published by the well-known firm of Lea Brothers & Co., Philadelphia.

Brief and pithy manuals have a position of high value to students and practitioners, most criticisms of their class being leveled at the evidences of hasty work, which is especially unjustifiable in books limited to statements of important facts. This volume of "Students' Quiz Series" has been written with exceptional care, the author being selected because of his ability as a writer and teacher. This series, furnishes a quick and convenient means of acquiring or renewing knowledge of all branches of medical science and practice in accordance with the latest authorities.

STRICTURE OF THE RECTUM, ITS CLASSIFICATION AS TO CAUSATION, TOGETHER WITH ITS TREATMENT. By Chas. B. Kelsey, M. D.

This monogram is an able one, and its painstaking tabulation of diseases as regards cause and treatment, commends it to the profession.

Its classification might have been more in accord with the etiology and pathology of the disease; yet for all practical purposes it is very good. The masterly advocacy of inguinal colotomy for the relief and cure of stricture, puts him in touch with the most progressive of European proctotomists. I dissent from him as to the frequency with which syphilis enters into the causation of stricture of the rectum. Observation in the outdoor department of St. Mark's Hospital, London, England, leaves me in no doubt as to the great frequency of syphilis as a cause of stricture. I am convinced more than fifty per cent. of all cases are directly traceable to syphilis. The hospital records at St. Mark's bear me out in this statement. According to Kelsey's table of cases, not more than ten or twelve per cent. of all cases are due to syphilis. As regards linear proctotomy for stricture, I quite agree with him that it should be complete and external.

St. Louis, Mo. LEON STRAUS, M. D.

A TREATISE ON DISEASES OF THE RECTUM, ANUS AND SIGMOID FLEXURE. By Joseph M. Mathews, M. D., Professor of Principles and Practice of Surgery, and Clinical Lecturer on Diseases of the Rectum, Kentucky School of Medicine, etc.

In this progressive age when the "knowledge of to-day becomes the ignorance of to-morrow," how glad are we to welcome a new work, brimful of new teachings. Dr. Mathew's book is original, and eminently practical as well, in its teachings. The illustrations are generous, convincing, educating and correct. The author has carefully collected data all along the line and has reached conclusions that are peculiarly his own. Looking over the chapters devoted to Diseases of the Sigmoid Flexure—The Nervous Rectum, we are impressed with the original and eminently practical nature of the work. Every worker in surgery should be possessed of this volume, and more especially should every general practitioner secure it.

St. Louis, Mo. LEON STRAUS.

RAILWAY INJURIES, WITH SPECIAL REFERENCE TO THOSE OF THE BACK AND NERVOUS SYSTEM IN THEIR MEDICO-LEGAL AND CLINICAL ASPECTS. By Herbert W. Page, M. A., M. C., Cantab., F. R. C. S., Eng. W. M. Wood & Co., New York, 1892.

This is a book which everyone should read in connection with the subject of traumatism, and psychical or physical shock of the cerebro-spinal system. It is a legitimate sequel and fitting accompaniment of Erichsen's book, and antedates the work of Clevenger.

The author is rather inclined to the hysteria and psychical shock theory as an explanation of the phenomena of the so-called railway spine. He is

not very profound in his discussion of the subject of Electrical Tests in the Diagnosis of Cerebro-Spinal and Peripheral Nerve Disease. He is certainly not *au fait* on reaction of degeneration and its real significance in diagnosis, and is sceptical on Railway Spine, believing that simulation and psychical expectancy of possible recompense for injury, explains much in the peculiar symptomatology and delayed recoveries of the victims of railway accidents. The book cannot well be dispensed with by anyone who wishes to be thoroughly posted on the subjects on which it treats, whether the author's views are accepted or rejected by the investigators.

This book has been before the medical profession for some time and has been well received. The date, 1892, is misleading.

THE MEDITERRANEAN SHORES OF AMERICA: or The Climatic, Physical and Meteorological Conditions of Southern California. By P. C. Remondino, M. D., member of the American Medical Association, of the American Public Health Association, of the State Board of Health of California; Vice-President of the California State Medical Society, and of the Southern California Medical Society. Illustrated with forty-five engravings and two double-page maps. In one handsome, royal octavo volume, 176 pages. Extra cloth, price, $1.25, net; cheaper edition, bound in paper, price, 75 cents, net. The F. A. Davis Co., Publishers, 1231 Filbert St., Philadelphia.

This is a book of special interest to the health-seeking tourist, and of particular value to the physician looking for a suitable climate for his patients. Besides, the author is peculiarly well-fitted for the task he has assumed, and so well performed, by a large professional experience, liberal medical education and long residence in the delightful and salubrious section of our country about which he writes. The reviewer has been twice in Southern California, and at about all the places described in the book, and can verify, in general, its descriptions and conclusions.

A DICTIONARY OF PSYCHOLOGICAL MEDICINE. Giving the Definition, Etymology, and Synonyms of the Terms used in Medical Psychology, with the Symptoms, Pathology, and Treatment of the recognized Forms of Mental Disorder, together with the Law of Lunacy in Great Britain and Ireland. Edited by D. Hack Tuke, M. D., LL. D., Examiner in Mental Physiology in the University of London, Co-editor of *The Journal of Mental Science*. Two volumes, cloth. A large number of short definitions of words have been introduced. Articles of greater length treat of the most important subjects which fall under the head of Psychological medicine. An account is given of the methods of Psycho-Physical Research which have been introduced in recent times into Psychological Laboratories established in various universities in Europe and in the United States; also of the results which have been reached in regard to the Reaction time of Mental Phenomena. An important feature of the Dictionary is the introduction of Bibliographical References in connection with the most important subjects treated of in the Articles; and, in addition to these, a copious Bibliography of English works bearing upon Psychological Medicine will be found at the

close of the work. Some of the most eminent names in psychological medicine have contributed articles and definitions. P. Blakiston, Son & Co., 1012 Walnut Street, Philadelphia, are the publishers.

Some subjects discussed at considerable length in these volumes are scarcely appropriate in a dictionary of psychological medicine, such as the sebaceous excretion and the cerumen of the ear, the details given being more appropriate to a work on physiology, and the prolonged detailed discussion of pachymeningitis, especially of the spinal variety, would suit better a treatise on neurology.

Hammond's Miryachit, Beard's Jumpers of Maine, and the simulation by the Insane, are not discussed or defined in this book.

The author's views are sound on moral insanity, and maintained with ability and skill. The differing views of this vexed question held by alienists results from mistaking the moral insanity of Prichard, or *folie raisonnante* of the French for moral depravity, whereas it is a disorder of the affective mental power, and may be manifested to extravagant conditions.

The author likewise gives undue space to the subject of neurasthenia. When we consider that he disputes the claims of Bouchut and Beard to having it classified as a morbid condition, distinct from hysteria, and falls into the common error of attributing to Beard the invention of the term, whereas it may be found in Dunglison's American Dictionary of Medicine, so far back as 1854, if not further, and was used by Van Deusen, of Kalamazoo, Mich., an asylum superintendent, who described the disease more definitely and appropriately in its psychopathic relations before Beard's first contribution on neurasthenia appeared .This chapter, which is by Rudolph Arndt, is, however, a very good one, though American neurologists who have seen much of this disease, and treated it often, probably take a more hopeful view of treatment and prognosis than the author, our own experience being that neurasthenics can almost always be cured, if they can be under medical management and have the means to carry out the treatment by rest, diversion, neural and psychical tranquilization, pending the reconstruction of the general neurotrophia, upon which the neurasthenia depends.

But these objections are trivial. It is easy to note defects in reviewing almost any book, especially first editions. It might even further be said without disparagement, that the subjects and authors yet omitted would almost equal those included in the text, that is, if all neurological subjects bearing on psychiatry be considered germane to the purpose of the book, for to include such would have too greatly enlarged the work for handy use.

The Anglicized term psychiatry does not appear in this dictionary, at least in its proper place, or if it does, we have overlooked it. And this is a dictionary of psychiatry more accurately speaking, rather than of psychology, for it more especially discusses phases and symptoms of mind morbid, than of mind normal.

But it is almost captious to refer to these omissions, and we

would criticise in no such spirit. The editor takes, in our opinion, a proper view of the subjects of illusion and hallucination in wishing, after Esquirol, to give them distinctive differentiation in definition, notwithstanding Mr. Ball's objection. There is a special clinical value in the distinction.

The book is altogether a most valuable and much needed addition to the current literature of the psychoses. It is the most complete English contribution of its kind extant upon the subject. In fact, it is the first exclusively psychological dictionary ever attempted, and the author and many of his collaborators are well and favorably known to English, American and foreign alienism. It is high time such a book of reference in the English language should appear, and for one, we hail its coming with pleasure, and shall surely enjoy its pages with profit. It will be found of especial value to the student of morbid psychology as a work of ready-reference replete with accurate definitions, and the descriptions often as elaborate and complete as the illustrations are instructive. We especially commend the account of general paralysis of the insane, the facial illustrations of types of insanity, idiocy and other psychopathic states, the writing of the insane, the hand-pictures of nervous states, the pathological illustration of goiter and the chapter on the "Philosophy of Mind," and the historical sketch of the insane. We, however, hope in the next edition to see its bibliographical list, and many more subjects in psychiatry and allied neuropathology, added to the text, especially from other than English sources.

MATERIA MEDICA, PHARMACY, PHARMACOLOGY AND THERAPEUTICS.—A Handbook for Students. By Wm. Hale White, M. D., F. R. C. P., etc., Physician to and Lecturer on Materia Medica, Guy's Hospital; Examiner in Materia Medica, Royal College of Physicians, London, etc. American Edition, Revised and Edited by Reynold W. Wilcox, M. A., M. D., Professor of Clinical Medicine at the New York Post-Graduate Medical School and Hospital; Assistant Visiting Physician Bellevue Hospital, etc. 580 pages. P. Blakiston, Son & Co., Medical Publishers and Booksellers, 1012 Walnut Street, Philadelphia.

This is a plain and practical condensation of the subject (together with the author's own views) from such works as those of Mitchell, Bruce, Lauder Brunton, Sidney Ringer, Shoemaker, Martindale and Westcott, Squire and Elborne, Patton, Wood, Hare, Bartholow, Biddle and the U. S. Dispensatory.

FERMENTATION, INFECTION AND IMMUNITY. A new theory of these processes, which unifies their primary causation and places the explanation of their phenomena in Chemistry, Biology, and the Dynamics of Molecular Physics. By J. W. McLaughlin, M. D., Austin, Texas. Published by Eugene Von Boeckmann, Austin, Texas.

Diseases of the Lungs, Heart and Kidneys. By N. S. Davis, Jr., A. M., M. D., Professor of Principles and Practice of Medicine, Chicago Medical College; Physician to Mercy Hospital; Member of the

American Medical Association, Illinois State Medical Society, Chicago Medical Society, Chicago Academy of Sciences, Illinois State Microscopical Society; Fellow of the American Academy of Medicine, Author of "Consumption, How to Prevent it and How to Live with it," etc. No. 14 in the Physicians' and Students' Ready-Reference Series. In one neat 12mo volume of 359 pages, extra cloth, $1.25 net. The F. A. Davis Co., 1231 Filbert Street, Philadelphia.

The Scarlet Letter. By Nathaniel Hawthorne. Vernon Bros. & Co., paper makers, 65 and 67 Duane St., New York, have adopted a novel method of advertising their book papers by printing books of celebrated authors as samples. The sample before us is printed in their No. 60 bulky laid novel paper.

Rupture of the Aortic Valves with Demonstration of Specimen. Aneurisms of Right Auricular Appendix. By Ludvig Hektoen, M. D., Chicago.

An Operation for the Radical Cure of Stricture of the Lachrymal Duct, with Description of a Stricturotome. By Charles Hermon Thomas, M. D., of Philadelphia.

Pseudo-Chromesthesia, or the Association of Colors with Words, Letters and Sounds. By William O. Krohn, Ph. D., Fellow in Clark University.

Tuberculin and the Living Cell; an Inquiry as to how the One Aids the Other in a Fight Against Tuberculosis. By Charles Denison, A. M., M. D.

A Contribution to the Study of the Care of the Insane: being Chapter III., Vol. II., Hospital and Asylum Construction. By Geo. F. Hammond, Architect, Cleveland, Ohio.

Report on Abdominal and Pelvic Surgery, Including Thirty-Two Successful Cases of Laparotomy, By William H. Watnen, M. D., M. D., Louisville, Ky.

Some Illustrations of the Working of the Plea of Insanity in Criminal Prosecutions. A Plea for the Better Regulation of Expert Testimony. By Richard Dewey, M. D.

Ataxia. Clinical lecture delivered at the Arapahoe County Hospital. By J. T. Eskridge, M. D., Denver, Colorado.

The Pathological Anatomy of Acute Arsenical Poisoning. By Ludvig Hektoen, M. D.

Criminal Responsibility in the Early Stages of General Paralysis. By Frank P. Norbury, M. D., Jacksonville, Ill.

The Trial of Alice Mitchell for Killing Freda Ward.—Forensic Psychiatry. By F. L. Sim, M. D.

Surgical *versus* Educational Methods for the Improvement of the Mental Condition of the Feeble-Minded. By Frank P. Norbury, M. D., Jacksonville, Ill.

The Collegiate Degree as an Evidence of Fitness for the Study of Medicine. By L. Harrison Mettler, A. M., M. D., Chicago, Ill.

Observations on the Excretion of Uric Acid in Health and Disease. By C. A. Herter, M. D., and E. E. Smith, Ph. D., New York.

Typhoid Fever in the Light of Modern Research. Facts and Doubt About Cholera. By L. Bremer, M. D., St. Louis, Mo.

Address on the Objects of the American Medical Temperance Association. By N. S. Davis, M. D., LL. D., Chicago.

Insanity in Private Practice. By Richard Dewey, M. D. From Transactions Illinois State Medical Society, 1892.

Researches upon the Etiology of Idiopathic Epilepsy. By C. A. Herter, M. D., and E. E. Smith, Ph. D.

Internal Derangements of the Joints, including Loose or Movable Bodies. By James P. Tuttle, M. D.

Some Outlines of State Policy in the Care of the Insane. By Richard Dewey, M. D., Kankakee, Ill.

Electricity in the Diagnosis of Diseases of the Nervous System By Frederick Peterson, M. D.

Some Practical Points in the Diagnosis of Spinal-Cord Lesions By Frederick Peterson, M. D.

Cortical Epilepsy—Operation; Recovery. By Alexander B. Shaw, M. D., of St. Louis, Mo.

The Sanitary Side of the Drink Problem. By T. D. Crothers, M. D. Hartford, Conn.

Codeine in the Treatment of the Morphine Disease. By J. B. Mattison, M. D.

A Plea for the Medical Expert. By L. Harrison Mettler, A. M., M. D., Chicago.

Sensory and Sensory-Motor Disturbances. By H. A. Tomlinson, M. D.

Atrophy of the Cerebellum in a Cat. By William O. Krohn, Ph. D.

The Curability of Narcotic Inebriety. By J. B. Mattison, M. D.

Varieties of the Hymen. By E. S. McKee, M. D., Cincinnati, O.

Abortion. By E. S. McKee, M. D., Cincinnati, O.

Eye Paralyses. By John Amory Jeffries, M. D.

Syringomyelia. By J. T. Eskridge, M. D.

THE NEW YORK THERPEUTIC REVIEW.—The first number of the first volume of this publication is on our table. It is a quarterly journal, having for its object the discriminative analysis of modern therapeutics, medical, surgical, general and special; new methods, remedies, etc., from the writings of English and foreign authors; also original articles on therapeutics, prophylactics and hygiene. Edited by Paul Gibier, A. M., M. D., Paris, Director of the New York Pasteur Institute; Late Assistant Professor of Pathology at the Paris Museum and Resident Physician of the Hospitals of Paris, etc., with the collaboration of a number of distinguished biological *savants*. *The New York Therapeutic Review*, Pasteur Institute, New York City, Publisher.

The Influence of Tobacco on Vision. Some Investigations Made into the Tobacco Manufactories of Cincinnati. By Francis Dowling, M. D., Cincinnati.

World's Columbian Exposition.—Department of Liberal Arts. Circular No. 9. The Bureau of Hygiene and Sanitation.

Dr. Fuller's Brain Section Casts.—Neurological Genius in the Northwest.—We have examined with especial pleasure, and employed in our class demonstrations before the students of Barnes' Medical College, the excellent brain casts made by Dr. Wm. Fuller, of Grand Rapids, who taught anatomy in McGill and Bishop's Colleges, Toronto, and commend them to all teachers of cerebral anatomy for their fidelity to nature.

We regard them as superior to any European attempt we have seen in the same direction. Dr. Fuller is the gentleman whose beautiful illustrations of cerebral sections attracted the attention of the Section on Neurology at the last meeting of the American Medical Association, at Detroit.

THE

Alienist and Neurologist.

VOLUME XIV. ST. LOUIS, APRIL, 1893. No. 2.

ORIGINAL CONTRIBUTIONS.

AFFECTIONS OF THE TEMPORAL LOBES.*

A CASE OF DEAF-MUTISM.—A CASE OF LESION OF THE LEFT TEMPORAL LOBE WITHOUT VERBAL DEAFNESS IN A LEFT-HANDED MAN.

By DR. GUISEPPI SEPPILLI, Italy.

I.

THE genesis of deaf-mutism, studied in relation to the affections of the temporal lobes, has not claimed, as far as we know, in any special manner, the attention of observers, in spite of the importance of this subject, in regard to the physiology and pathology of hearing. For, from the results of clinical and experimental investigations into the acoustic functions of the temporal lobes, the inference must be drawn that deaf-mutism may be caused not only by lesions of the peripheral organs of hearing, developed during the intra-uterine or infantile life of an individual, but also by diseases of

* Translated by SUSANNA P. BOYLE, M. D., C. M., Toronto, Canada.

the cerebrum, or more properly speaking, of the temporal regions.

Anatomical researches on the central nervous system also support this physio-pathological theory, although up till the present time, we have not been able to exactly determine the course of the acoustic nerves in their passage from the bulbar nuclei to the cerebral cortex. In fact, from the studies of Flechsig* and Bechteren,† it is shown that the acoustic fibers are brought into relation with the posterior tubercles of the corpora quadrigemina by means of a band of fibers from the cord entering their lateral and back part, and thence with the internal geniculate bodies which stand in the same relation to the sense of hearing as do the corpora geniculata externa to that of sight. It is supposed that, from the internal geniculate bodies, the acoustic nerves, proceeding along the posterior part of the internal capsule are brought into relation with the cortical matter of the temporal convolutions. This anatomical hypothesis is confirmed by the researches of Monakow,‡ who found, in rabbits from which the temporal lobes had been removed, an atrophy of the internal geniculate bodies and observed the same fact in two human brains in which the temporal lobes were deficient, and also in the observations of Zacher,§ who in some cases of lesions of the left temporal lobe found a secondary degeneration of the interna geniculate body and of the posterior tubercles of the corpora quadrigemina.

Ferrier|| observes that deafness following cerebral disease is rare in man from the great rarity of simultaneous bilateral lesions of the temporal convolutions, and cites two such cases, one of Shaw's,¶ and the other of Wer-

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* *Neurologisches Centralblatt*, 1886–1890.

† *Ibid.*, 1887.

‡ *Archiv. fuer Psychiatrie und Nervenkrank.*

§ *Archiv. fuer Psychiatrie und Nervenkrank.* Bd. xxii. Ht. 3, 1891.

|| Ferrier. "Lectures sur les localisations cerebrales." *Archives de Neurologie*, N. 62, 1891.

¶ *Archives de Medicine.* Ferrier, 1882.

nicke and Friedländer's.* The first of these was a woman, 34 years of age, who, after an apoplectic attack, was left aphasic, deaf and blind, and on section there was found to be complete atrophy of the angular convolution and of the first temporo-sphenoidal convolutions of both hemispheres. The other case was that of a woman, 44 years of age, who had suffered from deafness, visual disturbances and right hemiplegia with aphasia. At the autopsy there was found a destructive lesion, which had invaded the superior temporal convolutions of both sides, from which Wernicke and Friedländer conclude that the acoustic nerves have their terminations in the temporal lobes, and that bilateral lesions of these lobes cause complete deafness. Ferrier reports also that he found atrophy of the superior temporal convolutions in cases of deafness of long duration, and of congenital deaf-mutism, and notes in this connection an observation made by Mills, in 1889,† regarding a man who had been deaf for thirty years, and whose brain presented atrophy of the two superior temporal convolutions, and another published in 1870 by Broadbent,‡ of the brain of a deaf-mute in whom there was atrophy of the two temporal convolutions, but more marked on the left side.

We ourselves, in a monograph published together with Luciani, in 1884, on *Localizzazioni funzionali del cervello*, noting the physiological importance of deaf-mutism in relation to affections of the temporal lobes, have made mention of two of our patients, a woman and a man, deaf-mutes from birth, in whom there was found a relatively inferior development of the temporal lobes compared with other parts of the brain, while in one there existed besides this a pronounced atrophy of the first left temporal convolution.

There afterwards came under our observation the following case, which we thought it well to publish:

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* *Fortschritte der Medicin.* N. 6, 1883.

† *University Medical Magazine*, November, 1889.

‡ *Journal of Anatomy*, 1870.

Woman, 43 years of age, deaf-mute from infancy, very tall and well-developed, was sent into this asylum July 10th, 1889, on account of impulsive manifestations which rendered her dangerous to herself and others. From the few data which we were able to obtain it was impossible to determine whether she had had any cerebral disease in her early years. She died of pulmonary tuberculosis in February, 1890, and during the few months in which she was under observation, she presented noticeable deficiency of intellect with absolute deafness and dumbness. She could, however, perform naturally all such acts as are required for the more elementary needs of life, could do coarse work and comprehend to a limited degree mimetic language. She had a physiognomy of but little intelligence, a notable degree of microcephalia (cranial circumference 490 mm.), a slight clonic contraction of the facial muscles (tic). No motor lesion of the trunk or limbs. Visual and cutaneous sensibility intact.

At the autopsy it was found that the cranial capacity was much less than normal; the brain was small and weighed 935 grammes. The left hemisphere weighed 314 grammes, the right, 402 grammes.* In both there existed a lesion situated symmetrically in the temporal lobes. The first and second temporal convolutions were destroyed and transformed into cicatricial tissue, while the third convolution, the supramarginal gyrus and the angular convolution were sclerotic and atrophied. The convolutions of the island of Reil were intact on the right, but largely destroyed on the left side. The medullary substance of the temporal lobes was almost entirely transformed into cicatricial tissue of an areolar aspect. Acoustic nerves very thin. Nothing important in the rest of the encephalon, whose convolutions had a normal course and appearance, though presenting a uniform diminution in volume.

In these cases the relation of deaf-mutism to lesions of the temporal lobes is evident. It is true that the his-

* "Alla necroscopia si rescontró la cavitá cranica di capacitá molto inferiora alla norma con un cervello piccolo é del peso di gr. 935. L'emisfero sinistro pesava gr. 314, il destro gr. 402."

tory of the patient furnished no criterion by which one could determine when the cerebral disintegration took place, but if we take into account the anatomical characters of the destructive process, which are those of an old lesion, the uniform reduction in volume of the brain and the diminished cranial capacity, it appears to me that we can trace the origin of the lesion to a period at which the brain (already formed into its different parts), was arrested in its development by a circumscribed destructive lesion, such as occurs precisely in infancy after a partial encephalitis. This admitted, we maintain that the patient had from infancy been the victim of an encephalitic process in the temporal lobes, which was the immediate cause of the deaf-mutism.

It is not difficult to comprehend in these and other similar cases the relation of cause and effect which exists between the seat of the lesion and the deaf-mutism, when one thinks for a moment of the mechanism of the formation of language.

In fact, one of the fundamental elements in the development of language is constituted by the acoustic memory of words. The child retains the words which he hears pronounced in the form of auditory ideas, which are formulated in the temporal lobes. Little by little there is established a process of association between the auditory center and the ideogenous center, where the words which represent conventional acoustic symbol acquire an exact significance; and then between the auditory center and the motor center of language, which contains the proper elements to transform the verbal acoustic idea into a motor idea and to co-ordinate the necessary movements for the pronunciation of the words. Now, it is natural that when the temporal lobes which preside over the acoustic functions of language undergo a destructive lesion in early infancy, the formation of verbal acoustic ideas is entirely prevented, and in consequence of thus lacking the elements which serve for the development and elaboration of motor verbal ideas, mutism is necessarily produced.

This central or cerebral genesis of deaf-mutism should be borne in mind whenever we have to determine the cause of so serious an infantile disease in order that we may employ a rational treatment. As a general rule, we have observed that deaf-mutism of cerebral origin, differing from that dependent on a peripheral affection of the organs of hearing, is accompanied frequently by epileptic convulsions and an imbecile or idiotic condition, all of which are ordinarily the results of the so-called infantile encephalitis.

II.

It has been affirmed with regard to motor aphasia that spoken language is a function of the left cerebral hemisphere, which is equivalent to saying that man in the act of speaking is, as far as the brain is concerned, *left-handed.*

This theory is justified by two sets of facts: one is that motor aphasia is associated ordinarily with a destructive lesion of the lower part of the third left frontal convolution or region of Broca, the other that the exceptional cases of lesions of this region without aphasic disturbances or of affections of the same region on the right side, with loss of speech, belong frequently to individuals who were known to be left-handed.

In one of our previous articles on verbal deafness,* after having shown that this alteration of language is due to a lesion of the first and second temporal convolutions of the left side, we remarked that in order to confirm this doctrine it would have been interesting if clinical observations could have succeeded in demonstrating what induction had already led us to admit, viz., that:

(*a*) A lesion of the right temporal lobe gave origin in left-handed people to verbal deafness, and that this was not caused in right-handed individuals; and

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* Vide *Revista*, 1884.

(*b*) That left-handed people were not the subjects of verbal deafness unless the left temporal lobe were affected.

(*a*) Now, as regards the first of these inductions, a direct proof is furnished by a case described in 1886 by Dr. Banti, in which he found, at the autopsy of a left-handed man, 67 years of age, who after an apoplectic attack had presented a typical case of verbal deafness without any other kind of aphasia, a focus of yellow, cortical softening in the posterior two-thirds of the first and second temporal convolutions of the right lobe with diffusion of the lesion to the second parietal, and to the first and second occipital convolutions. Of similar cases, which are of great importance in the localization of the functions of language, I know no others in literature. More frequent, however, are cases of lesion of the right temporal lobe, without verbal deafness, as is found in right-handed people, and as an example of this, we may mention here a case described by Mariani, in which the phenomena of verbal deafness were entirely absent, while at the autopsy an abscess was discovered in the right temporal lobe.

(*b*) As to the second theoretical inference, that lesions of the left temporal lobe do not cause verbal deafness in left-handed people, the case I am about to quote offers conclusive proof.

It was that of a man, 67 years of age, who was received into this asylum with pellagrous mania. He remained about two years under our observation and died of chronic enteritis. Was fairly intelligent, of hypochondriacal tendency, but never showed any delirious ideas nor sensorial disturbances. Used his left hand by preference, as he had more strength in it than in his right, and employed it in eating, carrying things, buttoning his clothes, etc. In a word, he was left-handed. Speech unimpaired; hearing normal; understood quite well what was said to him and answered promptly. Had no history of having previously suffered from any disturbance of speech. Motion and sensation intact.

Autopsy.—Skull-cap thin, symmetrical. Cranial capacity normal. Brain weighed 1,565 grammes; the right hemisphere, 665 grammes; the left, 590 grammes.* Meninges normal. Some atheromatous patches in the Sylvian and basilar arteries. The left hemisphere showed in place of the fissure of Sylvius a large and deep excavation, due to an old destructive lesion. The convolutions of the island of Reil had almost entirely disappeared and the bottom of the Sylvian fossa was transformed into a smooth tissue resembling connective-tissue and of a dirty white color. The destroyed tract also embraced the medullary fibers of the first and second temporal convolutions, which were atrophied and sclerotic. On a horizontal section of the hemispheres it was seen that, besides the convolutions of the island of Reil, the external capsule had disappeared. With the exception of the above-mentioned convolutions, all the others, frontal, parietal and occipital, of the left hemisphere, were normal in volume, appearance and course. The right hemisphere presented no changes.

Confronted with this discovery in a person who had never had any disturbance of speech, we were at firs surprised, but on considering that the man was left handed it seemed natural to find in this functional anomaly the cause of the fact that the vast destruction of the temporal lobe had not been accompanied by verbal deafness. The right hemisphere must have exercised the predominant function, and by the same law which localizes the faculty of language in the left hemisphere in right-handed people, it must be admitted that in the case under consideration was that of a left-handed person, in whom the right hemisphere presided over speech and therefore a lesion of the left hemisphere could not give rise to any disturbance of speech.

On the other hand it does not seem reasonable to invoke here the doctrine of functional compensation in order to explain the lack of verbal deafness of our

* "Il cervello pesa gr. 1565, l'emisfero destro gr. 665, il sinistro gr. 590."

patient, because he had no history of any disturbance of language, while the anatomical characters furnished by an examination of the brain would lead us to suppose that the lesion of the left temporal lobe had taken place in an adult brain, and therefore at a period when it is not possible to admit that compensation could take place in such a way as not to leave some trace of a preceding disturbance in speech. In fact, with the exception of the first and second temporal convolutions and the island of Reil, all the other parts of the left hemisphere were perfectly developed and presented no alteration either in form or volume, as would have been the case had the lesion taken place during an evolutionary period of the brain.

In medical literature we have found two analogous cases. One observed by Westphal* was that of a left-handed man who had never suffered from any disturbance of speech, while at the autopsy there was found a tumor which had completely destroyed the left temporal lobe. The other case is described by Prof. Bianchi,† and was that of a person who had been an epileptic from infancy, was left-handed, but had never suffered from any disturbance of speech, while at the autopsy they found an apoplectic cyst which had destroyed the second and third temporal convolutions and part also of the first on the left side.

From all of these observations we may conclude with Bianchi that in left-handed people the acoustic center of language has its seat, not in the left, but in the right hemisphere.

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* *Berlin Klin. Wochenschrift*, 1884. N. 49.

† *La Psichiatria*, 1888. Fasc. 1.

TRAUMATIC INSANITY.

ACCOUNT OF THE MEDICAL HISTORY OF THE CASE OF CORPORAL ALBA M. TOURJE.

By A. C. GIRARD, M. D., Fort Sheridan, Ill.,

Major and Surgeon, U. S. Army, Post-Surgeon.

ALBA M. TOURJE, Corporal, Company "B," 15th Infantry, æt. 51, has served with the army twenty-four years. Two years ago, while working at a steam saw, was struck on the back of the head by a heavy piece of wood. He fell unconscious, bleeding from his nose and ears. In a few minutes he recovered consciousness and walked back to quarters. Although he had evidently received a fracture of the skull, he never applied for treatment and suffered no immediate evil effects from the injury. A slight headache, lasting a few days, quickly subsided. A few weeks later he had a convulsive seizure, and since that time, he has had an attack every week or two, all precisely alike. The attack is preceded by an aura lasting from fifteen to twenty minutes, during which time he becomes absolutely blind. Unconsciousness speedily supervenes, his breathing is stertorous, eyes open and staring, countenance cyanotic. The left side of the mouth, the muscles of the left cheek and the platysma contract rhythmically for five to ten minutes, and the man gradually rallies from the attack with considerable mental and physical depression.

The pupils are markedly unequal, the left pupil being only one-half the size of the right. There is no reflex iridoplegia in either eye, response to light and accommodation being relatively unimpaired. There is a deep

depression in the occipital bone one inch to the right of the median line, the depression is abrupt, one and one-half inches long and three-fourths of an inch wide. There is some slight impairment of speech. Articulation is slow and slightly labored, but is otherwise good. Combinations of consonants are slurred and initial consonants are explosive in character.

Ophthalmoscopic examination reveals extensive atrophy on both sides. The disks are small, sharply defined, of an ashy gray color. The lamina cribrosa is exposed on the left side. There are no circulatory disturbances of the retina. The general color of the fundus is good and there is no evidence of papillitis. The visual field is uniformly contracted. The color fields are likewise contracted, but their relations are not impaired.

His mental powers are failing. He is conscious of his inability to carry out a line of extended thought, and of his failing memory. There is slight emotion tremor of the lips and a fine fibrillary tremor of the fingers. His eyes have a wandering, suspicious look, and he is slightly depressed mentally.

Since the above note was written, one month ago, Corporal Tourje's decline has been rapid. The attacks have become more frequent, protracted and the subjective symptoms more pronounced. The muscular spasms have not however become more generalized. His mental decline has been very rapid. At first he was greatly depressed, worried over the loss of his memory and his failing mental powers. He feared that the loss of his memory was impending, and complains of constant headache and insomnia. The head pain is dull and constant, local in character and referred to the seat of old injury in the occipital region. During the night he complained of bad dreams, unquestionably delusions which, as yet, he was able to correct. Within the last few days he has lost his mental powers to a large extent. Headache and insomnia will persist and are still constant. He has disturbed the patients in the ward by his constant mutter-

ings during the night. He is at no time violent or maniacal, and as a rule not noisy. Last night he jumped from his bed, crying "Murder," thinking that he was pursued. His memory fails him almost entirely. He says his father was 97 years old when he died, and his mother 93, and that at that time he was only 14 years old. He recognizes the Sergeant of his Company in the Hospital Steward, and says he has known him many years. Also says that the Surgeon is Lieutenant of Company A. He thinks he is now in the barracks, saying that he left the hospital, was taken off the sick report yesterday and expects to go on guard to-morrow. He has in addition to his delusions, hallucinations of sight and sound. He sees men who are constantly pushing and touching him. He says they do not threaten him, but merely make him nervous. He hears rats running around the ceiling and walls, and hears little wheel ventilators spinning in the wind. At times he looks about and laughs foolishly, but quickly resumes his morose attitude and expression. His attention is poorly sustained and his mind wanders. Ideation has suffered as much as his reflex mental acts. Movements are only moderately well co-ordinated. Speech is greatly affected. He speaks now with an effort. Word follows word with a slow uncertainty. He speaks as though his lips were leaden. Articulation is poor, the words are indistinct. There is now a tremor of the cheek and face. The fingers are also very tremulous. He tried to write his name but the effort was abortive. The writing cannot be read although at one time he could write quite legibly.

Endorsement on letter of Major A. C. Girard, Surgeon, U. S. Army, Post-Surgeon, Fort Sheridan, Ill., to the Superintendent of the Government Hospital for the Insane, Washington, D. C., requesting brief medical history of the case of Corporal Alba M. Tourje, Company "B," 15th Infantry.

GOVERNMENT HOSPITAL FOR THE INSANE.
WASHINGTON, D. C., Sept. 17th, 1892.

Respectfully returned to Major A. C. Girard, Surgeon, U. S. Army, with the information that Corporal Alba M. Tourje, Company "B," 15th Infantry, who was admitted to this Hospital from the Post-Hospital, at Fort Sheridan, Ill., January 26th, 1892, died August 9th, 1892. The immediate cause of his death was "general paralysis of the insane, with gangrene of the lung." The diagnosis of general paralysis was made soon after his admission, and the case ran a speedy course and terminated in the usual manner. During the period Corporal Tourje was under treatment in this hospital he suffered from frequent attacks of maniacal excitement, during which he would remove his clothing, and was more or less destructive and untidy in habits. There were also recurring attacks of epileptiform convulsions, severe in character, and sometimes lasting twenty-four hours or even longer. During the last few weeks of his life his mental state was more comfortable, as he was less excited, and more easily controlled.

The development of gangrene of the lung was, in my opinion, in the line of the progress of his mental disease, and was due to the low state of bodily vitality.

[Signed.] A. H. WITMER,
1st Asst. Physician.

GOVERNMENT HOSPITAL FOR THE INSANE,
WASHINGTON, D. C., Aug. 9th, 1892.

POST-MORTEM EXAMINATION.

Alba M. Tourje, aged 53; soldier; nativity, New York; mental disease, general paralysis of the insane; duration, two years and fifteen days.

EXTERNAL EXAMINATION.

Autopsy three hours after death. Body emaciated; rigor mortis present. The following tattoo marks were found: On inner aspect of right forearm, a dancing girl, and the initials A. M. F. below; on the left forearm was a similar picture of a dancing girl, and above the figure, the name A. M. Targee.

Internal Examination.

Cranium.—Antero-posterior diameter, seven and one-fourth inches; transverse, five and three-fourths. Skull of the usual thickness, shape somewhat asymmetrical, the left side being the larger; sutures were all distinct. Dura mater showed slight adhesion to the bone. [No injury to the skull was observed at the *post-mortem*].

Brain.—Weight of left hemisphere, twenty and one-half ounces; right, nineteen ounces; cerebellum, pons and medulla, five and three-fourth ounces; total, forty-five and one-fourth ounces. The pia mater showed slight opacity over the convexity. Arteries at the base were small and irregular in size and contours, but not distinctly diseased. On the right side the posterior communicating artery was unusually large and furnished the main blood supply to the posterior cerebral region of the hemisphere; the posterior cerebral artery was very small before it joined the former vessel. The ventricles were dilated; the endyma granulated. Brain flabby and collapsed with its own weight as the fluid escaped from the ventricles. The tissue was soft and œdematous; the perivascular spaces were greatly enlarged, and curved vessels could be seen lying within them. The membranes were not unusually adherent to the cortex. Spinal cord normal to the naked eye.

Thorax.—Weight of right lung, twenty-four and three-fourths ounces; left lung, eighteen and three-fourths ounces. The left lung showed slight emphysema of anterior margins; the right lung contained a large gangrenous cavity in the upper lobe, and the bronchi were filled with muco-purulent secretion. There were no signs of tuberculosis in either lung,

Heart.—Weight eight and three-fourths ounces. Valves of right side normal; slight chronic thickening of left valves; fibrous change at summits of the muscular papillæ, and some thickening of the chordæ tendinæ.

The lining of the aorta was somewhat corrugated by early atheromatous change, and a large *ante-mortem* clot had formed in the arch and greatly obstructed the vessel.

Spleen.—Weight, three and three-fourths ounces. The organ contained two recent hemorrhagic infarctions.

Kidneys.—Weight of left four and one-fourth ounces; right, five and one-fourth ounces. Capsules not adherent;

general appearances normal; left contained several recent infarctions. Bladder normal.

Liver.—Weight forty-eight ounces. The tissue seemed normal. Nothing abnormal was discovered in the other organs.

[Signed.] J. W. BLACKBURN, M. D.
Pathologist.

A true Copy.
A. C. GIRARD,
Major and Surgeon, U. S. Army.

BRIGHT'S DISEASE AND INSANITY.

By E. D. BONDURANT, M. D.,

Assistant Superintendent of the Alabama Insane Hospital at Tuskaloosa.

AS early as 1838, Ellis, discussing the physical causes of mental disorder, wrote:* "Dropsy is another disease which my own experience would not lead me to assign as a cause of insanity. That dropsical affections have existed to a considerabie extent amongst the patients both at Wakefield and at Hanwell I cannot deny; but they have usually occurred amongst those who have long been previously insane, and have generally been the symptoms of a gradual breaking up of the constitution, rather than the cause of the disease." The subject of kidney disorders was little understood or studied in Ellis' day, and the "dropsy" was a very comprehensive malady. It is not amiss to surmise, however, that a fair proportion of the dropsy which prevailed "to a considerable extent" among his patients was due to renal disease. The mental symptoms of uræmia were first described by Addison, in Guy's Hospital Reports, 1839. Since this time the occurrence of dropsies and kidney disorders in connection with insanity is occasionally noted by writers. Sutherland found "kidneys congested and larger than natural in 70 out of 167 cases, and 27 in which the kidneys were granular, mottled and marbled;" and Sankey, speaking of *post-mortem* examinations upon insane patients, makes the remark that† "the cases of which I have notes are in a large proportion those of general paresis, in which disease the affection of the kidneys is less frequently met with than in other cases. In about one half of the cases to which I can refer, the

* "Treatise on the Nature, Symptoms, Causes and Treatment of Insanity." London, 1838, page 101.

† "Lectures on Mental Disease," 1866, page 206.

kidneys exhibited distinct changes in the parenchyma, as purulent collections, small cysts, atrophy of the entire organ and atrophy of the cortical layer." No one apparently attached much importance to the occurrence of Bright's disease among the insane, or assigned it any place as a causative agent until Hagen* in 1869, reported several cases, and suggested a possible connection between the two maladies; following this† by a second and more complete exposition of the subject, with report of numerous cases taken from his own experience and collated from other sources.

Wilks, in 1869, reported one case, and in 1874, three cases‡ of Bright's disease, with marked psychic disturbance, and asked if uræmic intoxication might not be the cause of the mental disorder; and has recently again referred§ to the cerebral disturbance which sometimes occurs as a symptom of bodily diseases, among them Bright's disease of the kidneys.

Wright, of the Royal Edinburg Asylum, in his report for 1871, recorded two instances of insanity co-existent with the waxy form of Bright's disease. Howden,‖ of the Montrose Asylum, in an analysis of 235 autopsies upon insane patients, found fatty degeneration of the kidneys in 55 cases, and cysts of the kidney in 31, and reports that during three years twelve patients were admitted into his asylum with albuminuria.

Jolly, of Berlin, in 1873, and Schulz, of Bremen, in 1876, recorded of co-existent Bright's disease and insanity, and Friedreich¶ has reported several such.

Brieger** describes a case of uræmic convulsions, followed by mental disturbance of brief duration, ending in amnesic aphasia, with final complete recovery.

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* *Zeitschrift fur Psychiatrie*, 38.

† Schmidt's *Jahrbuch*, 1880

‡ *Journal of Mental Science*, July, 1874, Vol. XX., page 243.

§ "Dictionary of Psychological Medicine," Vol. I., page 366. Article, "Delirium"

‖ Quoted by Bucknill and Tuke, "Manual of Psychological Medicine," London, 1879, page 595.

¶ *Allgemeine Pathologie*, page 402.

** *Klinische Beobachtungen, Charite Annalen*, 1882, page 237.

Blandford, in his text-book* says: "In the pathology of commencing insanity they (the kidneys) play a very unimportant part, and even after death, they are not often found diseased. Acute renal disease, with albuminuria and dropsy, is decidedly rare among the insane."

Bucknill and Tuke† make the statement: "The kidneys are remarkably free from disease in all the forms of insanity, and the changes which give rise to albuminous urine are especially rare in them. We have only met with three instances of decided Bright's disease among the insane, and upon inquiry in other asylums we have found that the experience of others has been of a similar nature."

Griesinger‡ remarks: "Bright's disease, to which any etiological relation to insanity could be attributed, is very rare in the insane." Clouston devotes a page of his work§ to the "Insanity of Bright's Disease," describing forms of delirious mania with dread and extreme restlessness; has seen "several cases" and quotes Grainger Stewart in corroboration. Savage‖ reports a case, and in his book¶ refers to "domestic trouble" as a cause, and says that under its influence, "the pulse becomes hard, the tension being high," and that this "may pass into Bright's disease or insanity." T. Clifford Allbutt** assigns to mental anxiety and prolonged distress a high, if not the chief place, in the causation of certain forms of kidney lesion; reports thirty-six cases of nephritis, in twenty-four of which some mental distress or care, or both, were shown in history.

A. Haig,†† writing in the *London Practitioner*, on the connection between mental depression and the excre-

* "Insanity and its Treatment," 1887, page 79.

† "Manual of Psychological Medicine," London, 1879, page 594.

‡ "Mental Pathology and Therapeutics." Trans. Robinson and Rutherford, 1882, page 135.

§ "Mental Diseases," 1884, page 414.

‖ *Journal of Mental Science*, Vol. XXVI., page 245.

¶ "Insanity and Allied Neuroses," 1884, page 44.

** "Mental Anxiety as a Cause of Granular Kidney," *British Medical Journal*, 1877.

†† *London Practitioner*, Vol. XLI., No. 5.

tion of uric acid, attributes certain forms of depression to this acid and explains the fact that melancholic states are more pronounced in the morning by the increased alkalinity of the blood at this time, with consequent greater solubility of uric acid.

Krafft-Ebing* contents himself with quoting the reports of Hagen† and Raymond,‡ and ventures no opinion.

Meynert§ makes no reference to Bright's disease direct, but speaks of the etiological effect of the various dyscrasias, tuberculosis, anæmia, chlorosis, marasmus, etc., in the genesis of melancholia.

Dieulafoy,‖ in a communication to the Societé Medicale des Hopiteaux, mentions cases, and reports several in detail, assigning some influence to kidney lesions in the causation of insanity.

Ollivier¶ at the same time, however, stated that among 500 cases of insanity seen yearly by him, he noted no single instance of insanity due to Bright's disease.

Gowers** states that Bright's disease may cause both atheroma and miliary aneurisms, and may thus induce either softening or hemorrhage, with consequent mental disturbance.

Luige M. Petrone,†† in 1883, described an instance of maniacal exaltation with confusion and incoherence accompanying Bright's disease, and attributed the mental symptoms to uræmic poisoning.

Dickinson‡‡ thinks that "prolonged mental disturbance, anxiety or grief," may cause granular disintegration of the kidneys.

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* *Lehrbuch der Psychiatrie*, Stuttgart, 1890.

† Loc. Cit.

‡ *Zeitschrift fur Psychiatrie*, 39, page 4.

§ *Vorlesungen uber Psychiatrie*, Wien, 1890.

‖ Quoted by Millard, "Bright's Disease," New York, 1892, page 186.

¶ Quoted by Millard, Loc. Cit.

** "Diseases of the Brain," 1885, page 210.

†† Translated from *Revista Sperimentale*, by Joseph Workman, in ALIENIST AND NEUROLOGIST, Vol. IV., page 439.

‡‡ "Treatise on Albuminuria," 1881, page 165.

Purdy* also refers to the influence of mental disturbance in the causation of chronic interstitial nephritis, and Dr. Francesco Spallita† writes upon the influence of the nervous system upon the renal functions, detailing numerous experiments upon animals, in the main corroborating the statements of Kriemer, Morceau, Wittich and others, who have seen degenerations of the kidney cells follow disease or injury of the nerves supplied to this organ.

Cases of co-existent Bright's disease and insanity have also been reported by Joffrey, Grainger Stewart, Haslund, Lecorche and others.

In this country a number of cases of Bright's disease with insanity have been observed and recorded, and several very valuable articles have appeared, though here we find the same wide differences of opinion as to the significance of the co-existence of the two maladies.

Dr. F. X. Dercum‡ gives in detail an instance of unilateral convulsions, and another of chorea occurring in uræmia; also reports "two cases of hemichorea associated with Bright's disease."

Prof. William Osler,§ in 1888, reported three cases of mental disorder with uræmia, to the Philadelphia Neurological Society.

Dr. L. Bremer,|| of St. Louis, records seven cases, assigning uræmia as a cause of the intellectual disorder.

Gannett,¶ in 1886, reported, in 68 autopsies upon insane patients, disease of the kidneys in 29, and in 20 autopsies by him at the McLean Asylum, disease of the kidneys was found in five.**

Kellogg†† says: "Diseases of the kidneys are not

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* "Bright's Disease and Allied Affections of the Kidneys," 1886, page 142.

† Translated from *Il Pisani*, by Joseph Workman, ALIENIST AND NEUROLOGIST, 1889, Vol. X., page 574.

‡ *Journal of Nervous and Mental Diseases*, August, 1887.

§ *Journal of Nervous and Mental Diseases*, Vol. XIV , page 771.

|| "Insanity from Bright's Disease," *Journal of Nervous and Mental Diseases*, June, 1888, Vol XIII., page 374.

¶ Report of Boston Lunatic Hospital, 1886.

** Quoted by Tuttle, Loc. Cit.

†† Article, "Insanity," Reference Hand-Book, Vol. IV., page 57.

uncommon among the insane, but their pathological relations to the mental disorder are obscure."

Edes,* before the American Neurological Association, in 1888, says: "It may be said with much confidence that insanity and delirium are not early or distinctive or common urotoxic symptoms."

Blackburn† has recorded the *post-mortem* appearances of the kidneys in 263 cases of mental disease, finding distinct pathological changes in 43 instances, and "slight and unimportant" departures from the normal in 104 others.

Christian, of the Eastern Michigan Asylum,‡ found 37 cases of Bright's disease among 2,600 admissions. He reports several cases in detail, dividing them into two classes, the "urotoxic" and the "vascular;" thinks the latter largely preponderate. He regards the mental symptoms accompanying Bright's disease as only rarely of distinctly urotoxic origin, but more commonly expressions of lowered nutrition, or of changes in the blood-vessels and brain.

Dr. Alice Bennett,§ calls attention to the extreme frequency of Bright's disease among insane patients, reports sixty cases at length, and regards uræmic poisoning as one of the most frequent causes of insanity. Recently, in response to inquiry, she writes me that "probably one-half" of the patients she now has under treatment at the Norristown Asylum, suffer from Bright's disease in some form.

Tuttle,‖ of the McLean Asylum, reports the presence of albumin and casts in the urine of 55 of 200 female patients examined; reports five cases at length, and thinks that chronic nephritis may occasionally be a cause of insanity; but assigns to "long-continued

* "Relation of Renal Diseases to Diseases of the Nervous System," *Journal of Nervous and Mental Diseases*, Vol XIII., page 566.

† Report of Government Hospital, 1888

‡ "Chronic Bright's Disease in it Relation to Insanity," *Journal of American Medical Association*, March 23d, 1889.

§ ALIENIST AND NEUROLOGIST, Vol. XI., page 566, October, 1890.

‖ Kidney Disease and Insanity, *American Journal of Insanity*, April, 1892.

anxiety" a prominent place in the causation of kidney diseases—"albumin hyaline, granular, epithelial and blood casts in the urine, with œdema in some cases," being, he thinks, not infrequent results of mental distress.

Both Tuttle and Bennett especially emphasize the fact that the mental symptoms of uræmia are prone to assume the form of *melancholia.*

Millard,* in the last edition of his "Bright's Disease," discusses the subject of insanity as a symptom, but inclines to the belief that uræmic poisoning plays a very unimportant part in the production of mental disease. He says: "In a very large experience in the observation of cases of Bright's disease I have not as yet met with one where I could attribute what alienists regard as insanity to any affection of the kidneys." He says, however, in a preceding paragraph: "Retention of excrementitious matter, urea, etc., which should be expelled by the kidneys, may produce numerous disturbances of the mind, the nervous system and the *morale,*" and further explains that he "would not, however, be considered as regarding as true insanity the numerous mental disturbances, as moroseness, diminution of mental power, transient delirium, which might occur in the course of the disease."

Dr. Milton D. Norris, of the Maryland State Hospital,† has recently reported three cases of insanity with Bright's disease, and is inclined to assign some causative influence to the kidney lesion.

Wise,‡ of the St. Lawrence State Hospital, speaking of the arterial disease and brain degeneration and senility, recognized as a sequela of chronic Bright's disease, says: "The manifestations of insanity in these cases appear to indicate lowered nutritive conditions, and cannot well be confounded with the uræmic insanity of Bright's disease, which, in my opinion, is seldom

* "Bright's Disease," New York, 1892, page 186.

† "Report of Maryland Hospital for the Insane," 1892.

‡ "Bodily Diseases and Senility" Trans. New York State Medical Association, 1891.

met with in hospitals for the insane, if anywhere."

The views and opinions quoted above are many and various. Most of the text-books in psychology make no mention of the subject, or comment on the infrequency of Bright's disease among the insane; all of the more recent writers dissent from this view, and look upon kidney disease as a very common complication; some regard their co-existence as accidental; some think anxiety, worry and mental disorder, precede and cause the kidney trouble; others recognize in the existing intellectual disorder the psychic symptoms of uræmic poisoning. Most of them say it is only the chronic forms of Bright's which are commonly found, and almost all agree that melancholia or some form of mental pain and distress is the most common psychic expression of kidney disease.

Mann, in his "Psychological Medicine,"* deplores the fact that the physicians of asylums have not been able thus far to give the profession the result of their observations upon the urine of the insane, which is so much to be desired; and it is still evident that this subject, an important one, all will admit, is not receiving the attention it deserves. About a year ago a circular letter of inquiry addressed to the superintendents of many of the insane hospitals in the United States, brought me replies from about forty institutions of all classes, and revealed the fact that at not more than a half-dozen insane hospitals in the United States was any attention being paid to the subject in hand, examination of the urine of even recent admissions being very generally neglected. The opinions as to the frequency of kidney lesions among the insane, the influence of such lesions upon mental character, the form such mental disturbance usually assumes, etc., expressed by the gentlemen who were kind enough to reply to my inquiries, varied widely, and were in many cases, owing to failure to recognize any cases which might exist, of little value.

* "Psychological Medicine," page 145.

In general it was shown that in those hospitals where a routine examination of the kidneys was made in every case admitted, a high percentage of kidney disease existed; while in those institutions which only made urinary examinations when renal disease was "suspected," a very small proportion of such disease was recognized.* No less than nineteen out of thirty-nine hospitals, having an aggregate population of 7,160, reported *no case* of Bright's disease under treatment, a statement surely very wide of the real facts.

At the Alabama Insane Hospital the kidney complications of insanity have been the subject of especial study during near two years past; and the result of careful observation has been the discovery of an amount of renal weakness far in excess of what had formerly been recognized by the medical staff, or been reported by writers upon the subject, compelling the conclusion that an intimate relation—in many instances undoubtedly that of cause and effect—exists between disease of the kidneys and derangement of the mental mechanism. Of the 1,400 patients of all classes under treatment during the period covered by this investigation, nearly or quite one-half have given unmistakable clinical evidence of renal disease, in addition to the presence in the urine of albumin and casts; and among the recent and more acute cases the percentage of renal disease is still higher. Examination of the urine of 1,336 insane patients has resulted as shown below:

	WHITE.		COLORED.		TOTAL.
	Men.	Women.	Men.	Women.	
Total Number Examined	499	495	158	184	1,336
Both Albumin and Casts	265	296	72	93	726
Albumin; No Casts	104	101	17	37	259
Casts; No Albumin	62	52	31	12	157
Neither Albumin nor Casts	68	46	38	42	194

* *Journal of Nervous and Mental Diseases*, Nov., 1892.

Post-mortem examination, with subsequent microscopic study of the kidneys, has discovered a distinct lesion in considerably more than one-half of the 122 cases which have thus far been investigated.*

In further illustration of the frequency of this disease among the patients brought to us for treatment, and as showing the influence of such bodily weakness upon the question of prognosis, it will be interesting and profitable to briefly sketch the course and termination of a number of our recent admissions; selecting the class which has been most carefully observed, and with which I am most familiar, I find that from May 1st, 1891, to November 30th, 1892, one hundred and twenty-four white female patients were received in our wards; a chemical and microscopical examination of the urine, made as soon as practicable after entrance, revealed the existence of albumin and casts in 92 of the 124 cases; in five other cases albumin but no casts, and in five, casts but no albumin were noted; eighteen showed neither albumin nor casts; in four cases the urine was not examined, but as no one of the four, at the time of admission or later, gave any indication of renal disorder, the four cases may properly be included among the negative results. Among the eighteen cases in which the first analysis discovered no albumin nor casts, one had a pale, abundant urine, of a specific gravity of 1004, with clinical symptoms of a chronic kidney lesion, and subsequently both casts and albumin were detected; the patient has progressively failed in health. Of the ten cases in which albumin alone, or casts alone were found, six have since developed an unmistakable renal weakness, and casts and albumin together have been repeatedly detected in the urine. In other words, of thirty-two patients in whom an examination of the urine at time of admission proved negative in whole or in part, seven subsequently exhibited

* The *post-mortem* appearances of the kidneys in twenty-five of these cases were given in detail in the article in the *Journal of Nervous Diseases* above referred to, and in the Report of the Hospital for 1891–'92, forty-four other cases were recorded.

some signs of renal disorder, and twenty-five remained free. Of the ninety-two cases in which albumin and casts were found at first examination, fourteen have given no other symptoms of kidney disorder, while seventy-eight exhibit an undoubted renal weakness. Add these figures to the result mentioned in the preceding paragraph, and we have a total of thirty-nine cases in which no kidney lesions exist, to eighty-five showing nephritic symptoms, including the continuance during longer or shorter periods, of renal casts and albumin in the urine. In short, sixty-eight per cent. of the white female patients admitted during 18 months have some form of "Bright's disease."

Of the thirty-nine non-nephritic cases only seven were over forty years of age, and twenty-two were less than thirty years old. Twenty-three suffered from acute or chronic exaltation; ten from acute or chronic depression; one was in a state of terminal dementia; one was not insane; one an imbecile; one a paranoiac. Twenty-two of the thirty-nine have recovered entirely. Not one of the thirty-nine has died.

Of the eighty-five nephritic cases, thirty-one showed some kind or degree of mental depression as a symptom; nineteen exhibited exaltation, and twenty-seven some form of dementia, the remaining eight cases being distributed among the less common forms of insanity. Only nineteen of the eighty-five have recovered; nine have died, five of them directly from the renal disease, the remaining four from other causes, the renal disease hastening the end; autopsy in eight of the nine cases confirming the diagnosis of kidney lesion. Thirteen of the eighty-five have been removed by friends unimproved, while forty-four remain under treatment, and have joined the ranks of the chronic insane. Of the nineteen nephritic cases which recovered, twelve had apparently acute attacks of renal disease accompanying acute insanity; and entire disappearance of the albumin and casts as well as other nephritic symptoms, occurred about the

time recovery was established. In the remaining seven cases, the kidney disease was of a probably chronic nature; and a trace of albumin with an occasional cast persisted after relief of the mental symptoms, though in five of the seven there was great improvement, and all nephritic symptoms save the casts and albumin, disappeared as the mental faculties regained their normal balance. In two cases no appreciable change in the renal symptoms could be discerned.

Our records for twenty-three months past show that disease of the kidneys, often in a quite serious form, has existed in every case of acute delirious mania, typhomania, violent acute excitement, mania with distress, active melancholia with restlessness, etc., admitted during this period; without a single exception the "post-grippal psychosis"—thirteen cases—admitted during this time were accompanied (caused by?) a kidney lesion; without a single exception, the nineteen puerperal cases received showed the same weakness, as did also every case of alcoholism and morphinism brought to us.

The following cases are of some interest, and will serve as examples of the several classes just mentioned. They illustrate the clinical character, course and general symptomatology of the mental disorders of Bright's disease. It will be seen from the first twenty-three cases given, all of which are more or less acute in character, that it is by no means the chronic forms of kidney disease alone which are accompanied by mental disturbance, and that such disturbance does not usually take the form of melancholia.

CASE I.—*Colored man, a light mulatto; acute mania with acute nephritis, ending in death.*

The following history is given by friends: Aged 41, married, no inherited mental instability; has some education, and has been considered quite intelligent; has not had syphilis; as long as a year ago he showed some peculiarities, and a slight change in mental character dates from that time, though he has kept at his work,

and was able to attend to his business affairs until three weeks ago, when he became restless and excited; he has steadily grown worse since then, and of late has been noisy and destructive; has had diarrhea and has lost flesh rapidly. On admission he is in a state of extreme restlessness and delirium; talks incessantly in a rambling, incoherent way, of his imagined property and lands; is somewhat irritable. He is very weak and emaciated, and is evidently ill. There is some rise of temperature; offensive breath, sordes on teeth and lips, œdema of eyelids and feet, slight cardiac hypertrophy, some hardening of arteries. Urine is high-colored and scanty, and loaded with albumin and a variety of casts. Complete anorexia.

He failed steadily from the time of admission; had intractable diarrhea, fits of nausea, constant restlessness and active delirium, with slight fever. He was often noisy and turbulent; was filthy in his habits; was completely incoherent, and exhibited disconnected and fragmentary delusions. He died in stupor three weeks after admission.

The autopsy showed: Slight cerebral congestion and œdema; some atheromatous patches in the larger arteries. Kidneys, right, five and one-half; left, five and three-quarter ounces. Capsule slightly adherent; cortex of normal thickness, pale yellowish; striæ totally obscured; pyramids and boundary layer very dark. The microscope shows disintegration of tubal cells and many casts *in situ.* Some of the Malpighian tufts are denuded of epithelial covering, and some of the capsules of Bowman are filled with debris and granular matter.

CASE II.—*Man, white, acute melancholia, with exacerbation of chronic nephritis; death.*

History obtained: Æt. 53, married, of good heredity, liberal education, intelligent, popular, and much respected by his neighbors who repeatedly elected him to office in his county. Six months ago, after undergoing great fatigue and worry in a heated political campaign, his health began failing and two months later his friends noticed a change in his disposition; he grew suspicious and secretive; thought his friends had deserted him; that he and his family would go to ruin; persecutory

and self-condemnatory delusions soon became prominent and for several weeks he has presented a typical picture of acute melancholia with restlessness and great distress; his health has steadily failed; he has lost flesh; has had attacks of diarrhea, nausea and "dyspepsia."

On admission, is in a state of utter hopelessness and dejection; moans, walks up and down and wrings his hands, pays no attention to what is said to him. Is much emaciated and very weak; slight elevation of temperature. Tongue furred, heart sounds roughened. No murmurs. Some arterial sclerosis; urine high-colored, scanty, and contains casts and albumin. He was placed in bed and given milk alone, which he took only under persuasion; complained of nausea; had frequent diarrhea and headache. He failed steadily and died four weeks after admission—five months after first symptoms were noticed, being dull and somnolent twenty-fours before death. No autopsy.

In neither of these two cases could any physical disease save that of the kidneys be detected. In each case there was marked (uræmic) stupor toward the close.

CASE III.—*White female.—"Typho-mania" with serious kidney lesion; death.*

History obtained at time of admission: Aged 38; unmarried; has two sisters insane. Had some mental disturbance at time of puberty, but recovered entirely after a few weeks. Patient has for years been considered eccentric and odd; has been a religious enthusiast, and spent most of her time and money in ill-directed philanthropic efforts. She had frequently fasted for days at a time, and for two years past insanity has been "suspected" by her family; she has shown much depression, and at times distinct delusions. Two months ago she began growing worse; all of her peculiarities became exaggerated; she developed numerous religious delusions, saw visions of angels, talked with God; then became melancholy and bewailed her imagined sins, said her soul was lost, etc. She has emaciated; has seemed ill, and been in bed from time to time; has had no appetite, and often says her food is poisoned; has had headache and diarrhea, and swelling of feet and face.

On admission is pale, emaciated, weak, has a temperature of 102.3° F.; tongue coated, sordes on lips and teeth, heart action irregular, rapid, pulse full—120, respiration accelerated, distinct œdema of eyelids; urine is scanty and high-colored, turbid; upon standing, an abundant reddish-brown sediment, to the extent of one-eighth the volume of the urine, subsides, which upon examination is found to consist almost entirely of dark, coarsely granular casts, with some renal cells and red blood corpuscles; the casts are phenomenally numerous—several hundred in the field of a one-fourth inch objective. A quantity of albumin present. Patient groans and exclaims, is constantly restless, and is with difficulty kept in bed. No appetite, but with some trouble is induced to take milk sufficient. She had occasional nausea, a constant rise of temperature—100 to 102. There was constantly increasing restlessness and insomnia, diarrhea, muttering delirium; no convulsive attacks. She grew steadily worse, and died fifteen days after admission.

Autopsy showed: Slight cerebral congestion. A few scattered tubercular nodules, surrounded by areas of pneumonic inflammation left lung. Kidneys: weight of right, four and one-half; of left four and three-fourths ounces. Capsule adherent, surface granular; cortex thinned, pale yellow, mottled, striæ invisible, pyramids dark red. Microscopic examination:—great disintegration of tubal cells, lumen of tubules choked; many granular casts *in situ*; irregular thickening of capsule; some infiltration of round cells in intertubular connective tissue.

Probably an acute exacerbation of a chronic kidney lesion. An extraordinary degree of disintegration and destruction of tubal cells is shown. The case presents a good example of a "typho-mania."

CASE IV.—*White female; acute mania with nephritis; recovery from mental disease without relief of kidney disorder.*

History obtained: Age 41. Intelligent; liberal education. No hereditary predisposition to insanity. Has been in good physical health until recently. At age of

twenty she had an attack of acute mania or delirium, terminating in entire recovery. Remained well until onset of this attack. Two days ago, without premonition, she became maniacal. Has been constantly restless, noisy and destructive, and has scarcely slept at all since excitement commenced.

On admission is noisy, talkative; moves, twists, picks at her clothing, declaims, sings, gesticulates, apostrophizes those about her, is incoherent, irritable, offers to fight. Is fleshy and stout; slight rise of temperature, coated tongue, no lesion of lungs nor heart; no arterial sclerosis; urine contained albumin and a variety of casts, was high-colored and diminished in quantity.

For about two weeks there was little improvement. She remained destructive, noisy and irritable, talked volubly, danced, stripped herself, destroyed her clothing and room furnishings; had little appetite, and occasionally refused food; was confined to a milk diet, and sedatives tried (chloral, hyoscin, sulfonal) without effect. She lost flesh rapidly, had slight but constant fever, sordes on teeth and lips. No convulsive attacks. Her appearance was constantly that of marked delirium. Now and then she would seem rational for a short time. During the third week she began improving; fever disappeared, appetite returned, urine increased in quantity, albumin and casts diminished, excitement subsided. Within a month she was entirely restored, and was gaining flesh rapidly. Two months after admission she seemed in perfect health, expressed herself as feeling better then she had at any previous time in several years. Albumin and casts, however, were found in urine at every examination. About this time she began suffering from nausea and headaches; had troublesome outbreaks of urticaria; had diarrhea and dyspepsia, with slight though distinct œdema of eyelids. She stated that she had suffered in a somewhat similar way during the year preceding her admission. She lost some flesh, complained much, grew a little irritable and despondent. Examination of urine showed albumin and large hyaline and fatty casts. After a time she again improved, and about four months after admission was taken home, mentally restored, but not entirely free from the nephritic symptoms above mentioned. About two weeks before discharge albumin and casts were still present in the urine. A letter received eight months

after her return home represents her as free from mental trouble, though still suffering at times from dyspepsia and the outbreaks of urticaria.

The above is one of the two cases previously referred to, in which entire relief of the mental symptoms was unattended by apparent improvement in the nephritic trouble. In the next case, on the contrary, a more intimate relation between the kidney lesion and the mental disorder is evident, and improvement in physical health is followed by entire disappearance of mental disorder.

CASE V.—*Female, white, acute melancholia with acute nephritis; recovery.*

The following history is given by friends: Aged 40, unmarried. No insanity in ancestry; of fair intelligence, but considered eccentric. Education limited. Had an attack of acute dementia at puberty, and since then has had five distinct periods of mental disturbance of one to six weeks' duration, all ending in entire recovery. Three months ago she had "fever," character unascertainable, and was in bed three weeks, being "delirious" most of the time. Her health has not been good since then; she has had swelling of the feet, and diarrhea. There has also been some derangement of intellectual faculties—confusion, depression, loss of memory, etc. This has during the past month grown more pronounced, and of late takes the form of a well-established melancholia with restlessness and delusions.

On admission she is emaciated, feeble, has some fever, sordes on teeth, furred tongue, pulse 104. Œdema of face, feet and legs well marked. Heart:—a systolic roughness with sharply accentuated second aortic tone. No arterial disease. Urine diminished in quantity, high-colored, contains albumin and enormous numbers of granular and nucleated casts. Ordered rest in bed and a milk diet. During the next two weeks she was at times actively depressed and restless; at others dull, indifferent and somnolent; fever then disappeared, urine increased, albumin and casts diminished, and the mental symptoms altered for the better. Was ordered tr. ferri. chlorid. Improved steadily, but for several weeks had attacks of diarrhea and headache with nausea. Ten weeks after

admission was discharged recovered. Had gained twenty-four pounds in weight; albumin and casts had disappeared from urine, and for several weeks no nephritic symptoms had shown themselves. A letter received seven months after her return home states that she remains well, and is in good bodily health.

The mental disturbance in Cases VI. and VII., occurs some months after confinement, and the cases are not properly "puerperal" in character. In No. VII. we have uræmic attacks and delirium, followed by simple mental weakness, without exaltation or depression—an "acute dementia" such as is not rarely seen after severe illness.

CASE VI.—*White female; acute melancholia, acute nephritis; recovery.*

History: Is 35 years old; married. Brother and maternal aunt insane. Has borne five children, all living and healthy; youngest, eight months old. She has not been in good health since the birth of this last child; two months ago had an attack of "fever," lasting several weeks. A week ago, during the night, having previously given no sigh of mental disorder, she leaped suddenly out of bed, screaming "They are killing me!" "Oh, I am lost!" etc.; and for some hours was much excited; walked up and down wringing her hands and crying; has remained in somewhat the same condition until now; has been constantly restless, wakeful, suspicious, intensely depressed, has shown various persecutory delusions, and is at times utterly oblivious to her surroundings.

On admission is uneasy, restless, talks incessantly, and seems to dread an impending calamity. Is feverish, tongue furred, sordes on lips and teeth, respiration quickened, pulse full, 108, temperature 101.0°. Urine contains many casts and a small amount of albumin. No disease of heart, lungs nor other organ discovered. With a milk diet and complete rest she improved from the first. All symptoms subsided, and in six weeks she was discharged recovered. No albumin and no casts in urine at time of discharge. Four months later it is reported that she remains well.

CASE VII.—*Female, white; acute delirium; acute nephritis; recovery.*

History given: 22 years of age, very sprightly and bright, with no oddities nor apparent intellectual instability until onset of the current attack. Her mother had an outbreak of puerperal mania at every one of five confinements, recovering completely in each instance. Patient married at nineteen and gave birth to her first child eighteen months ago; she had a difficult labor, and was quite ill; two weeks later had "dropsy of feet, legs and face," which, with general impairment of health, persisted for several months. She then began improving. There was no symptom of mental disorder until a few days ago, when during the night she became excited and delirious, and so continues until now. She has had several convulsive attacks—"cramping spells" her husband calls them.

On admission she is helpless and is at once put in bed. She lies with her eyes wide open and staring, but sees nothing, and pays no attention to what is said or done; she twists about, turns from side to side, picks at and pulls the bed clothes; face is flushed; some rise of temperature; slight œdema of ankles. No disease of heart nor lungs. Urine is abundant but high colored, and contains some albumin, with large numbers of hyaline, granular and nucleated casts, renal cells, and debris. At times she acts as if frightened, but does not utter an intelligible word. At frequent intervals has tonic contraction of all muscles, lasting for some minutes; froths at the mouth, pupils dilate widely. These attacks occurred ten to twenty times a day for several days after admission. Treated by hypodermatic administration of pilocarpine. Profuse diaphoresis resulted, and convulsive attacks diminished in frequency. Within a week marked improvement was noticed. The convulsive attacks ceased; the fever disappeared; urine increased in quantity and casts diminished in number; she began attempting to talk, but for a week or two had trouble in expressing herself; could not recollect the names of common objects; interchanged her words, etc.; showed incoherence and inability to fix attention. There was no depression and no exaltation. Within a month albumin and casts had almost disappeared. She was gaining flesh, and was improving in every way. In conversation she seemed rational, and expressed herself without difficulty, but for

several weeks longer she was unable to put her ideas into writing—could not compose the simplest letter. Would repeat words, begin sentences she seemed unable to complete, etc. This difficulty in time passed away, and about two months after admission she was discharged entirely recovered; had gained thirty pounds in weight. Urinary examination a week before discharge showed no albumin and no casts.

The next three cases are typical "puerperal insanities."

CASE VIII.—*Female, white, puerperal mania with nephritis and tuberculosis; death.*

The following history was given by friends: aged 25, laborer's wife, limited education. Had two sisters insane; one of them treated several years ago at this institution, presented almost the exact counterpart of the case in hand. Has had two children before this last, with slight mental disturbance each time. Four weeks ago was again confined. Had shown some peculiarities during last month of pregnancy; immediately after delivery she became wildly excited and noisy, attempted to get out of bed, tried to injure her infant; then developed numerous visual hallucinations of a religious cast; showed sundry fleeting delusions; became very destructive and noisy, and in this state is brought to the hospital.

At time of admission is violent, noisy and turbulent; laughs, dances and screams. Her talk is completely incoherent and unintelligible. Her former weight was 200 pounds, it is said; she weighs 180 now. There was elevation of temperature and some "typhoid" symptoms. Urine loaded with albumin and casts. No cough nor disease of lungs.

The mental symptoms scarcely changed during the twenty-one months she remained in the hospital. She was constantly noisy and violent, filthy, destructive, erotic; and during the entire time, was one of the most troublesome patients in the hospital. Urine at every examination showed casts and albumin. Œdema of face and feet, legs, and even hands and arms was almost constant, and at times excessive. She suffered often from diarrhea, had nausea and vomiting. Emaciated to about 100 pounds in weight. About a year after admission she

developed a hacking cough, but symptoms of disease of the lungs were indefinite and unsatisfactory. She died twenty-one months after admission.

At the autopsy no cerebral lesion could be detected. There was a small pneumonic spot in one lung, and a few scattered tubercular nodules in lower lobes posteriorly, both sides. No heart lesion. No arterial disease. Kidneys were small, firm, pale, capsule partially adherent, cortex pale, thinned, its markings obscured, weight of right three and one-fourth; of left, three and one-half ounces. Microscope showed irregular thickening of the capsule, considerable disintegration of tubal epithelium, debris and casts *in situ*, debris and granular matter in the Malpighian capsules, and proliferation of cells therein. Slight intertubal thickening and aggregations of round cells.

CASE IX.—*White female; puerperal mania with nephritis, both becoming chronic.*

The following history was given at time of admission: Is 25 years of age, of a low order of intelligence and very neurotic. Mother, brother and sister insane. Is married. She miscarried at seventh month two years ago, and then exhibited some mental disturbance, but recovered. Miscarried a second time, also about the seventh month, three months ago, and has shown mental disorder since, symptoms being a combination of acute dementia and melancholia with persecutory delusions. Has been in bad health and has lost flesh.

On admission seems utterly demented, sits immovable and stares into vacancy, without expression. Saliva dribbles from mouth; she will not speak, does not attend to calls of nature. Is very thin and weak, extremely anæmic. Hæmoglobin percentage 20; corpuscles 3,214,000. Œdema of face, feet and legs and an ascitic accumulation in abdominal cavity. Heart: Blowing systolic apical murmur (anæmic?) No arterial disease. Urine contains some albumin and some large hyaline and nucleated casts with renal cells; is pale, and of low specific gravity. No fever. Placed in bed and given a liberal dietary and tr. ferri. chlorid. After three months a slight improvement in general physical state was noted, and she seemed not so demented. Hæmoglobin increased to 62; corpuscles to 4,212,000. Albumin and casts persisted. She had

headaches, nausea, vomiting and diarrhea frequently. Has improved a little since. At this time, nineteen months after admission, is able to be up; has gained eighteen pounds in weight; œdema is not so marked, though it persists, as does also gastro-intestinal disorder and headaches. She is still dazed and dull, but answers questions and notices what occurs. Is a little irritable at times, and her physical and mental state varies considerably.

Both the mental and nephritic disorder have probably grown hopelessly chronic.

CASE X.—*White female, acute mania with nephritis, terminating in chronic renal disease and dementia.*

The following history was given: Age, 23, no insanity nor nervous weakness in family. Is married. Fifteen months ago gave birth to her first child, and at that time had a mild attack of maniacal excitement, which, however, entirely disappeared in two weeks' time. A month ago was again confined, and three days later developed a violent acute mania, which continues until now. Has been noisy, destructive, turbulent and troublesome. Has lost flesh and had much gastro-intestinal disorder.

At time of admission is very restless, talks constantly, is incoherent and emotional. She screams, laughs, dances and attempts to destroy her clothing. Is greatly emaciated, is feeble, breath offensive, sordes on teeth, tongue furred, dry, some fever. Urine contains casts in large numbers and some albumin, is high-colored and scanty. No other disease discovered.

She proved a very troublesome patient; was fearfully filthy in habits, stripped herself, and destroyed all she could lay her hands on. Was restless and very noisy, her talk utterly unintelligible. She emaciated to a skeleton; had almost constant diarrhea with œdema of face and ankles. After ten months she unexpectedly began inproving; grew quiet and gained flesh and strength; appetite became enormous; gastro-intestinal troubles grew less prominent. A good deal of dementia remained, however, and the nephritic symptoms, while becoming less prominent, did not entirely disappear. She was taken home by her husband seventeen months after admission. Albumin and casts persisted in urine; as did occasional

headaches, occasional nausea and vomiting, and rather frequent attacks of looseness of bowels. Had gained forty-one pounds in weight, however, and was perfectly quiet, and able to do housework. Well marked dementia. She has not been heard from since her return home, nearly a year ago.

Of some nineteen consecutive cases of puerperal insanity received for treatment, not one has failed to show some symptom of renal weakness, including the presence of casts and albumin in the urine. That kidney complications are frequent during the last months of pregnancy and in the child-bed period is well known. To what extent the kidney disorder is responsible for the aberrations of mind is an interesting question, and one worthy of further study. Several recent writers upon the puerperal insanities make no mention of renal inadequacy as a complication.

CASE XI.—*Female, white. Pregnant. Terminal dementia with chronic nephritis. Exacerbation of mental and renal disorders, and abortion, caused by an attack of influenza.*

History: Is 35 years of age. No relatives insane. Married, has had seven children, five of them now dead. Patient has been considered weak-minded and eccentric for some years, and since her last confinement three years ago has shown unmistakable insanity; been foolish, forgetful, irritable, excitable, disposed to wander from home. Has neglected her household duties, and "has allowed four of her children to die of neglect" it is stated. Has been in bad health for some time.

On admission shows marked dementia with rambling talk, silly delusions and irritability. Is about four months advanced in pregnancy; is pale, emaciated; face and feet are œdematous. Urine contains albumin and a few hyaline and nucleated casts. No heart lesion nor discoverable arterial disease. A month after admission she had *la grippe;* had much fever, great prostration, and a marked exacerbation of mental disturbance, becoming very restless, excitable and wandering. Urine became high-colored, albumin increased and casts grew more

numerous. Ten days later she miscarried. Was in bed for some time after this, and was quite melancholy, but slowly improved and after a month was up again, and eventually became able to do domestic work on the ward. Casts and albumin persist in the urine until now, fourteen months after her miscarriage, and she presents a typical picture of chronic nephritis—waxy pallor, œdema, gastro-intestinal disturbance, etc., with hopelessly chronic mental disease—dementia. Both mental and physical state vary much—she grows better—then worse, with a gradual downward tendency.

The preceding case and the six cases given below show the potency of the "grippal toxine" in the causation of kidney lesions and mental disorder. Cases XI., XII., XIII. and XVII., instance acute exacerbations of a chronic renal weakness, as do probably also Cases XIV. and XV. In Cases XVI. and XVIII. there was no reason to suspect renal trouble prior to the attack of *la grippe.*

CASE XII.—*Male, white. Acute depression and nephritis following la grippe; recovery.*

History given at time of admission: Aged 53, unmarried. Brother insane. Family and early individual history unobtainable. During past four years has had several attacks of acute depression, each of short duration and ending in complete recovery. Two months ago had *la grippe.* During convalescence "acted strangely, seemed confused and apprehensive." Two weeks later had an epileptiform convulsion (no history of epilepsy), was dull and somnolent for some hours after, and the next day was dazed and foolish; showed great incoherence; interchanged his words; was unable to call persons and objects by name—developed an amnesic aphasia, in other words—and was irritable and fretful. He grew daily worse; became despondent; took up the idea that men were plotting to kill him; were "trying to freeze him to death;" and became restless and uneasy. Had loss of appetite and insomnia.

On admission is nervous, suspicious, and much depressed; shows vague delusions of a persecutory nature, and great restlessness. Is fairly well nourished; no elevation of

temperature; no disease of lungs. Heart, apical roughness and accentuation of second aortic tone; slight hypertrophy; some arterial sclerosis. Urine contained much albumin and a great number of hyaline and granular casts, renal cells and debris, and was high-colored and diminished in amount.

He was put in bed and confined to a strict milk diet. Began improving after a few days. Within two weeks the mental symptoms had measurably disappeared, and in six weeks from time of admission, he was discharged entirely recovered. He had gained in flesh, urine had increased to normal amount, and albumin had disappeared. A few casts were noted at the last examination.

CASE XIII.—*Female, white. Acute delirium with an exacerbation of nephritis caused by influenza; death.*

History given at time of admission: Age 74. No relatives insane. Lived to advanced age without suspicion of mental unsoundness, but during a year or two past some failure of mental power has been noticed. Four weeks ago suffered from a severe *la grippe*, which kept her in bed a week. Succeeding this came violent maniacal excitement, active delirium, incoherence, great restlessness, and fleeting delusions; this condition has existed in gradually increasing severity until now.

On admission patient is restless and noisy, seems completely oblivious to surroundings, talks and mumbles, groans, walks aimlessly about. Very emaciated, very feeble, rise of temperature, furred tongue, sordes on teeth and lips, Complete anorexia; œdema of ankles, feet and face; all heart sounds rough, second aortic tone accentuated, arteries sclerosed; bronchitic cough. Urine scanty, high-colored, contains albumin and numerous hyaline, granular and nucleated casts and renal cells. She was put in bed, but persisted in getting up and walking aimlessly about the ward. Her mental state vibrated between exaltation and depression, the latter predominating after the first week. She refused food, saying it was poisoned; was several times fed with the stomach tube. Grew steadily worse; had diarrhea, nausea and vomiting. Toward the close became somnolent, with muttering delirium. Died three weeks after admission, having been in a comatose condition for two days previous. No convulsive attacks.

Autopsy showed: Cerebral atrophy; a pachymeningitis interna hemorrhagica; a diffuse endarteritis chronica; kidneys, weight of each, three and three-fourths ounces. Capsule adherent, cortex thinned, striæ invisible, pyramids small and pale. Microscopic examination: capsule thickened; walls of all blood-vessels thickened; large areas of round cell infiltration and interstitial thickening. Tubal cells granular, cloudy and disintegrating; casts *in situ*. Many Malpighian tufts destroyed.

CASE XIV.—*Colored man; chronic melancholia and chronic nephritis following influenza.*

No facts relating to family characteristics nor early individual history can be obtained. It is stated that he is 53 years old; that he had *la grippe* six months ago, and has been in bad health and in a state of despondency ever since. Two weeks ago he had an epileptiform convulsion, probably uræmic, and has seemed weaker and more depressed since.

On admission he is feeble and emaciated; has well-marked œdema of feet and legs; urine contains albumin and hyaline and granular casts; heart action is irregular; sounds are rough; second aortic tone accentuated. There is wide-spread arterial sclerosis. He is despondent and dull, and has depressive delusions. Treated by rest in bed, milk diet, and later, tr. ferri. chlorid., and has improved a little in physical state, and is less actively melancholy than when admitted. Has now been in hospital eighteen months, and case has become hopelessly chronic. Albumin and casts persist in urine.

CASE XV.—*White female; chronic kidney disease, and melancholia after la grippe, ending in death.*

The following facts are given by her son: Is 68 years old; a maternal cousin is idiotic; no other relative insane. She was in early life well-balanced, of average intelligence; received some education. Married, and has seven living and healthy children. Eleven years ago she had an attack of melancholia, but recovered entirely, after three months. Four years ago her health began failing; she lost flesh and had diarrhea and digestive disorder; her mental powers also showed signs of failure, and she was despondent and irritable at times. Nine months ago, as a sequela of *la grippe*, she developed the current

exacerbation of melancholia, and has steadily lost flesh and strength; has had headaches, nausea, vomiting, diarrhea, and dyspeptic symptoms; has been intensely depressed, had insomnia, many persecutory and self-condemnatory delusions, and has seemed restless, uneasy and suspicious.

On admission she is feeble, pale, emaciated; no fever; shows œdema of eyelids; arteries are hard and tortuous; heart sounds rough, aortic second tone accentuated. Is anæmic. Hæmoglobin percentage 48, corpuscles 3,840,000. Urine is pale, of low specific gravity, and contains a small amount of albumin with hyaline and nucleated casts and a few renal cells.

Mental state a typical melancholia with some dulling of intelligence. She failed steadily, suffering constantly from gastric disorder and diarrhea, had occasional slight œdema of ankles and eyelids, with attacks of bleeding at the nose. Casts and albumin were found at every examination. Her intense melancholy persisted to the end. She died, seven months after admission, having been in a comatose state for thirty-six hours. *Post-mortem* examination was not allowed.

CASE XVI.—*White female, renal disease and mental depression following la grippe.*

History given at time of admission: Age 41; married, and has borne five children, all living and healthy, youngest sixteen months old. Has been vigorous and stout, and done much hard work. Her father was insane. She was of a low order of intelligence, but exhibited no eccentricities prior to development of this attack. Six weeks ago had *la grippe*, which confined her to bed for three or four days. It was then noticed that she was "not herself;" she showed confusion of ideas, some incoherence and mental hebetude, soon changing to despondency; then delusions of a persecutory nature appeared; she thought she was poisoned; that she had committed sins; that her children were starving. Became intensely religious and suspicious of others. Has grown worse until now. Her general health has been poor; she has lost flesh, has had "fevers" and attacks of diarrhea, nausea and headache. Examination at time of admission showed a faint systolic apical heart murmur, no cardial hypertrophy, no arterial disease. Urine diminished in

quantity, high-colored; albumin and numerous hyaline, granular, nucleated casts and renal cells present. Great emaciation, slight rise of temperature, furred tongue, œdema of ankles and face. Mental state that of active depression with delusions as above, and constant restlessness. For months after admission she remained unimproved; cried, moaned, groaned, called for her "dear dead children," stared into vacancy, or moved aimlessly from place to place; was untidy in habits; at times refused food; had frequent attacks of nausea and headache, and an almost constant diarrhea. Albumin and casts in urine at every examination, but quantity increased and casts not so numerous as fever declined. After about eight months' residence, she began slowly improving, symptoms above enumerated measurably disappearing. Sixteen months after admission she was taken home by her husband. She showed at time of discharge a great deal of dementia, some depression, some partially systematized and fixed persecutory delusions. She had gained near thirty pounds in weight; urine was in normal quantity, or slightly increased, and contained albumin with a few large hyaline and nucleated casts; headache and gastric troubles had subsided several months previous.

CASE XVII.—*Chronic insanity with chronic nephritis. Exacerbation of each with influenza.*

Woman, white; age 47. Long-standing terminal dementia. In hospital six years, harmless and quiet. Had been in bad health for several years, with symptoms of chronic kidney disorder—casts and albumin in the pale urine of low specific gravity; arterial sclerosis; cardiac hypertrophy, etc. Had *la grippe* in Jannary, 1892, and soon afterward became noisy, restless, excitable, confused and incoherent, destroyed clothing, etc. During the attack of influenza urine became high-colored and scanty, and albumin and casts grew more numerous. For two months casts were found in large numbers and albumin was present in increased quantity. All constitutional symptoms of renal disease were exaggerated, and she lost near twenty pounds in weight. She then began slowly improving. Urine regained its former character and she grew quiet and more demented. Has never been quite so well as before the attack, and is now slowly losing ground.

CASE XVIII.—*Melancholia with nephritis, the latter excited by an attack of la grippe.*

White man; aged 25. For three years employed as attendant in the hospital. In the winter of 1891 had *la grippe* and has never been quite well since. He has during the succeeding eighteen months suffered almost continuously from dyspepsia; has lost twenty-five pounds in weight; has had nausea, frequent headaches, and often recurring diarrhea. In the autumn of 1892 he became nervous, uneasy, suspicious, and very melancholy, and it was found necessary to relieve him from duty on the wards. The gastro-intestinal disorder and typical depression directed attention to the kidneys, and an examination of the urine promptly confirmed the suspicion of renal disorder—casts, hyaline, nucleated and granular—with renal cells being discovered in large numbers, with albumin. There has been little change in past four months. He is despondent and apprehensive, but is not losing flesh. The renal lesion promises to become chronic.

The "post-grippal" neurosis and psychosis have been the subject of not a few very valuable articles and reports during the past several years (Kraepelin,* Becker,† Savage,‡ Althaus§ and others); but so far as has come to my notice, only one writer,‖ and she but incidentally, has suggested the possible dependence of the, as a sequela of influenza, frequently noted mental aberration upon disorder of the renal function. Within the past two years we have received thirteen cases of insanity in which an attack of influenza preceded by a week or two to several months the onset of mental disorder. In every one of these thirteen cases we found some kidney complication, with renal casts and albuminuria, and nine of the thirteen had a quite severe nephritis, which in two cases ended fatally.

* "Ueber Psychosen nach Influenza," *Deutsche Medicinische Wochenschrift*, 1890, No. 11.

† "Geisteskrankheiten nach Influenza," *Neurolog. Centralblatt*, 1890, No. 6.

‡ "The Neurosis of Influenza," *Lancet*, November 9th, 1891.

§ "Post-Grippal Psychosis," *American Journal of the Medical Sciences*, April, 1892.

‖ Bennett "Insanity as a Symptom of Bright's Disease," ALIENIST AND NEUROLOGIST, Vol. IX., October, 1890.

Three only out of the thirteen cases recovered, while eight remained under treatment as chronic dementias, some degree of renal weakness persisting in all eight of them. In about one-half of these cases it seemed probable that a chronic kidney lesion preceded the attack of *la grippe*, this latter serving to render active a previously latent and unsuspected weakness.

Certain it is that the specific poison served in every case to produce a distinct effect upon the renal function; the consequent accumluation in the blood of tissue products normally thrown off by the kidneys, in addition to the toxine of influenza, may properly be regarded as the cause of the cerebral disorder.

During the winter of 1891–'92, we had a number of cases of influenza among the patients of the hospital, and some among the employes. In many of these there was during the height of the attack slight mental disturbance and delirium, which passed away as the fever subsided; the only serious after-effects were seen in the patients having chronic kidney lesions, or in whom the influenza served to excite some renal disorder. Cases XII. and XVII. are examples of the first of these classes; Case XVIII. of the latter. In Case XVIII. the "grippal toxine" alone causes no disturbance of intellectuality; it is only after the kidney disorder has existed for more than a year, and the general health been seriously impaired thereby, that any symptoms of mental disturbance appear.

Are all of the "post-grippal" psychoses in reality the mental manifestations of renal disease? The few cases we have had under treatment would seem to indicate it.

The influence of alcohol, morphia and other poisons introduced into the blood-current from without, in causing serious kidney disorders, and, as a consequence of such kidney disorders, mental aberration, is shown by the cases given below. The cases of morphinism seem of more gradual development, and pursue a more chronic course than the alcoholic cases.

CASE XIX.—*Acute mental disorder and nephritis following prolonged intemperance.*

History: Age 59. Married, and has several healthy children. A sister is insane; a daughter was epileptic and died insane. Patient has been very intemperate for several years; of late has been intoxicated continuously, and is showing much mental disturbance; has been violent, threatening, noisy and maniacal.

On admission is confused, depressed, nervous. Physical state poor; no definite disease discovered, save that of kidneys indicated by albumin and numerous granular and hyaline casts, renal cells and debris. He suffered some from deprivation of stimulants, had gastro-intestinal disorder, etc., for several weeks, but improved steadily after the first few days, and in six weeks was discharged, mentally restored. Albumin and casts had entirely disappeared from urine.

CASE XX.—*Male, white; acute mental disorder with a serious nephritis, due to chronic alcoholism.*

The following history is elicited: Aged 43. A neurotic strain in family, but no insanity. Has a liberal education. A brilliant and in early life very successful lawyer; married, and has five healthy children. Has been intemperate for some years past, and has taken chloral, morphia and cocaine, as well as alcohol. He has had *mania a potu*, and several periods of serious and prolonged mental disturbance. For some weeks past has been drinking heavily, and during most of this period has shown decided psychic disorder; has had attacks of excitement, and been violent, noisy and abusive; has made threats against the lives of his acquaintances under the belief that they are plotting to injure him; has been morose, and is occasionally emotional and depressed. Had several epileptiform convulsions the day before admission, and has had swelling of legs and face for some time past.

On admission is restless, nervous, much confused; shows incoherent delusions and marked hallucinations of the special senses. His face is markedly œdematous, as are also his legs and feet. Urine contains albumin with large numbers of granular, nucleated and hyaline casts, both large and small. No lesion of heart or lungs. On the day of admission had another epileptiform con-

vulsion of undoubted uræmic origin, and for several days after this was dull and stuporous. This wore away gradually, but for several weeks he was confused and apathetic. As time passed he gained flesh, albumin diminished in amount, and casts grew less numerous; his mental state improved *pari passu* with the change for the better in his physical health, and at the expiration of two months he was discharged recovered. No albumin could be then detected in urine, though a very few casts were present.

CASE XXI.—*Acute mania, acute exacerbation of a chronic nephritis, from alcohol.*

History: Colored woman, 50 years of age. Family history unobtainable. Has been very intemperate for some years past and has led a dissolute life; has probably had syphilis. Has been considered insane for two years, the chief symptoms being irritability and restlessness, with confusion of ideas and general impairment of intelligence. She was, however, allowed to go at large, and to indulge her taste for alcoholics. Three months ago, after a series of "sprees," she passed into a state of acute maniacal excitement, in which she continues to the present time. Has been very violent and noisy, destructive, obscene and filthy.

On admission is wildly excited, noisy, and talks in an uninterrupted stream of incoherent words. She is emaciated, has a slight rise of temperature; œdema of feet and face. Heart: all sounds rough, no discoverable hypertrophy; arterial sclerosis marked. Urine contains casts and albumin in large quantities. There was loss of appetite; patient had diarrhea, nausea, headache, was constantly restless and noisy, delirium becoming less active as strength declined. Death occurred three weeks after admission.

Autopsy showed a general endarteritis, a typical "red granular kindey," and a hemorrhagic pachymeningitis. No other lesion.

CASE XXII.—*Chronic morphinism with nephritis and chronic melancholia.*

White woman, aged 41. Unmarried, well educated and intelligent. Family neurotic, but no other member insane. Patient has used morphia for some years,

commencing the habit for the relief of pains of dysmenorrhea; has taken as much as five to ten grains a day. During several years she has been growing nervous and eccentric; two years ago first showed delusions with some mental depression and irritability, with suspicion and distrust of her relatives. Had "dyspepsia" then, and often suffered from diarrhea. Has grown steadily worse. Eighteen months ago was treated for three months at the hospital, having at that time casts and albumin in urine; œdema of feet and eyelids; and other symptoms of a chronic kidney lesion. Improved mentally and physically after withdrawal of the opium, and was taken home almost restored. Soon resumed the use of the drug, got in bad health, and four months later was returned to us in same state as at first admission—melancholy with persecutory delusions. Was pale and thin; eyelids and feet œdematous; casts and albumin in urine. Had diarrhea, headaches, nausea. Slowly improved, but has never recovered. Is now less despondent, but persecutory delusions seem fixed, and the renal weakness persists.

CASE XXIII.—*Opium habit 32 years. Chronic melancholia, with a severe nephritis; death.*

White woman, 57 years of age. Of good heredity. Contracted the opium habit in early life, and has continued the use of the drug, with an occasional brief intermission, until the present time. For a long period the amount taken was small; but of recent years she has largely increased the daily quantity, at times taking eighty grains of crude opium during twenty-four hours. She has several times been treated for the relief of the habit, without permanent good result. Eight years ago was admitted to the insane hospital, with a mild melancholia. After some months, having improved in health and entirely recovered from her mental disorder, was discharged. There is no record of a urinary examination at this time. Four years later was again treated in the hospital, and again recovered, but remained at home a short time only, returning to us in bad health and very despondent. Eighteen months after admission the gastro-intestinal symptoms, with headache, attacks of asthma, œdema of feet and legs, led to an examination of the urine, which was found to contain albumin and casts in large amount; the casts were hyaline, nucleated, granu-

lar, and fatty, many very large. She failed slowly; had diarrhea, then several attacks of pulmonary œdema. Had constant œdema of eyelids and often of feet. She one day passed into a profound stupor and after thirty-six hours died.

Autopsy showed a large pale kidney, in which the microscope detected an extreme degree of cellular disintegration, with some interstitial thickening and destruction of Malpighian tufts. There was commencing atheromatous disease of the larger arteries and some thickening of the heart valves.

Passing on to cases which have pursued a more chronic course, the first group which arrests attention is the very large one in which symptoms of a chronic kidney lesion—slow and insidious failure of health, occasional gastric and intestinal disturbance, slight œdema, traces of albumin and some casts in the usually pale and increased urine—exist with some evidence of disease of the vascular system—arterial sclerosis, roughened heart sounds, accentuation of aortic tone, with occasional, though in our experience rare, cardiac hypertrophy. In a small proportion of this class valvular heart lesions co-exist. The mental symptoms vary somewhat, but in looking over the records of a large number of cases one cannot but be impressed by the fact that the one constant and ever-present mental state is *dementia* of some kind or degree, most usually associated with some depression of spirits. The question of the relation between the psychic disturbance and the renal disorder in these cases is complicated by the presence of a more or less widely diffused *endarteritis chronica;* the cerebral arteries are themselves not rarely the most seriously diseased of all, and some cortical malnutrition with consequent intellectual dulling is to be expected, apart from any contamination of the blood-current due to failure of the excretory function of the kidney.

It may not be wide of the truth to say that the dementia mentioned as so common in these cases, finds its physical basis in the arterial disease and cerebral

atrophy, while the contamination of the blood-current induces the co-existent melancholia. These cases, of course, rarely or never recover, though arrest of the downward course of the disease and even temporary improvement may occur. A fair proportion of the hopeless terminal dements of our population belong to this class.

From the hundred or more such cases we have had under observation, the following may be taken as typical examples:

CASE XXIV.—*Chronic melancholia with chronic nephritis.*

White woman, age 52, well educated. No relatives insane. Married and has several living and healthy children. For several years past has been growing despondent and apprehensive, and for a year has been quite melancholy, with self-condemnatory delusions and suspicion of those around her, together with general failure of intellectual power. Health has slowly failed; she has lost flesh. Has had chronic diarrhea, headache, nausea, and occasional œdema of eyelids and ankles. Has taken sedatives innumerable "for her nerves."

On admission is melancholy and hypochondriacal, with depressive delusions. Pale and thin; heart sounds rough; no murmurs; second aortic tone accentuated. All arteries sclerosed. Urine pale, specific gravity 1004, a faint trace of albumin and a few casts. She remained in hospital four months, condition changing none at all, save that she grew thinner and more feeble. Œdema of face and ankles was occasional, diarrhea and other symptoms persisted unchanged at time of discharge, and the urine was slightly increased in quantity, very pale and of low specific gravity at each examination, with albumin and casts usually present in small quantity.

CASE XXV.—*White female, chronic mania with chronic nephritis.*

History obtained: Sixty years of age, married, has ten children living, all healthy save one, which is epileptic No relatives insane. This attack dates back thirteen years and has been a rather typical chronic mania. She has been several times treated at the hospital, improving

each time. Has shown a great deal of dementia during past few years. Has been in bad health; had chronic diarrhea and headache. Has recently been noisy and destructive.

On admission is excited and talkative, quarrels, threatens, offers to fight, is quite noisy. Is weak and seems ill. Heart action is violent and rapid, and there is a systolic roughness at base, with exaggerated second tone. All arteries are sclerosed and tortuous. Slight bronchitis; œdema of feet and legs. Urine is pale and of low specific gravity, contains albumin with some hyaline and nucleated casts. She became quieter after a few days, but remained cross and irritable. She had diarrhea at times, had little appetite, and some dyspeptic symptoms. A month after admission had a severe attack of erysipelas in left leg, and was quite ill; urine became high-colored and scanty, albumin increased and casts grew more numerous. She was very dull and somnolent for two weeks, and seemed greatly confused. The urine regained its former character after the erysipelas disappeared, but for several weeks the patient was confused and forgetful. She gradually improved, however, became quiet and after four months' residence was taken home; at that time was demented, but quiet. Urine, as before, of low specific gravity, and contained casts and albumin.

In the next two cases the extensive and severe arterial disease resulted in a cerebral hemorrhage.

CASE XXVI.—*Colored man. Organic dementia following cerebral hemorrhage. Renal disease with extensive atheroma of arteries; death.*

History: Age 66. Laborer, no education, married. Had a brother insane. Four months ago had an apoplectic seizure and was unconscious several hours; has had a partial left hemiplegia since, together with loss of memory, irritability, and periods of excitement.

On admission is foolish and talkative and shows great dementia. Speech is slurring and indistinct, gait, unsteady, owing to partial impairment of motility of left side. Tolerably well nourished. Feet œdematous. Slight cardiac hypertrophy. Systolic roughness at apex; sclerosis of all arteries. Urine pale, casts in large numbers, with much albumin.

His mental state remained unchanged—a typical "organic dementia"—until his death seven months after admission, of a second hemorrhage. During this time the daily quantity of urine ranged between forty and sixty ounces, albumin usually about five grammes to the litre; casts numerous, large and in great quantity. Renal cells abundant.

Autopsy showed an old hemorrhage in right lenticular nucleus, a recent hemorrhage in right thalamus, breaking into and partially filling right ventricle. Atheroma of cerebral arteries as a part of a diffuse endarteritis. Kidneys: right weighs three and three-fourths, left four and one-fourth ounces. The left is the paler, otherwise appearance is the same. Capsule adheres throughout, surface is granular, cortex is irregularly thinned, mottled, yellowish; striæ obscured. The microscope shows extensive round cell infiltration with great intertubal thickening. The walls of all blood-vessels are enormously thickened, the intima being most involved. Near one-half of the Malpighian tufts are completely destroyed, and those remaining have thickened capsules. The tubal cells are much damaged. There are many casts *in situ*.

CASE XXVII.—*White man. Dementia with extreme arterial disease and nephritis; death.*

Family history unobtainable. Has not been intemperate, and has not had syphilis. Was treated for an acute mania at the Alabama Insane Hospital in 1873, recovering; in 1886 was again admitted, suffering from a mild attack of excitement with a good deal of dementia, some irritability, and periods of violence. He seemed in good health at that time; was stout and vigorous, weighed 230 pounds. There is no record of any physical disease. No examination of urine was made. He led an uneventful existence at the hospital for six years—dementia, with occasional outbreaks of violence and excitement, being the mental features of his case. He did manual labor, was never ailing. In January, 1892, in the course of a routine examination of the urine in all of our old chronic patients, it was unexpectedly discovered that his urine was loaded with albumin, and that a large variety of casts and renal cells abounded therein. He was then apparently in excellent health; but the scales

showed that within three or four months he had lost flesh, though he still weighed over 200 pounds. A physical examination showed some arterial hardening, hypertrophy of heart and roughening of all heart sounds; no distinct murmurs. For months after this, however, he showed no symptom of failing health beyond a gradual diminution in weight, absolutely the only symptom of kidney lesion being the constant presence of a large amount of albumin and numbers of renal casts; later he began complaining; had headaches, then nausea; lost appetite; had diarrhea, and grew pale, and face and ankles became œdematous. Failed slowly but steadily. Two weeks before death he had an attack of partial unconsciousness, lasting twelve hours, with great confusion of ideas and tremor about the lips and tongue; after this it was noticed that he was paretic on left side; he dragged his left foot, seemed unsteady, had little use of his left hand, tongue protruded to right, etc. He kept up, however, and went about the ward until two days before death, when he suddenly grew somnolent and stupid, lay in a semi-comatose state for two days, and died. Age at this time 43 years. He lost about eighty pounds in weight in eight months. Urine was pale, increased in quantity, and contained an average of six grammes of albumin to the litre; casts always numerous.

Autopsy: Small effusion of blood, partially decolorized, with pigmentation and softening of surrounding tissue, in left lenticular nucleus; at anterior end of right thalamus, a small recent hemorrhage. Thickening of pia and atheromatous disease of vessels of the circle and of its larger branches. Brain tissue is soft, yellowish, congested.

There is a general *endarteritis chronica* of high grade. The heart valves are a little thickened but apparently sufficient. The heart is greatly hypertrophied, weighing, free from clots, twenty-six and one-fourth ounces. The coronary arteries are atheromatous. Liver and spleen cirrhotic. Kidneys: right weighs four and one-half, left four and three-fourths ounces. Capsule is firmly adherent, remaining surface nodular; cortex is thinned, striæ invisible; pyramids dark, boundary layer nearly black. The microscope shows an extreme degree of disease of the blood-vessels, with interstitial thickening, degeneration of the excretory cells and destruction of many Malpighian tufts. Casts *in situ*.

Case XXVII. is also of interest by reason of the quite unusual degree of hypertrophy of the heart, without valvular lesion.

Extensive disease of the arteries is more frequent among the class of patients we have to deal with than is ordinarily supposed. Our autopsy records shows distinct atheroma in something like one-half of the cases brought to the *post-mortem* table.

As example of chronic kidney lesions without discoverable implication of heart or arteries, the two cases below will serve. No. XXIX. is interesting on account of the undoubted dependence of the mental disorder upon the renal lesion.

Case XXVIII.—*White female. Chronic mania with chronic nephritis.*

History: Is 46 years old, married and has had five children. Has shown some mental disorder at each confinement, and states that she had swelling of the feet and legs on each occasion. Her mother died of "dropsy." Since her last confinement, fifteen years ago, has been considered insane, the chief symptoms being mild excitement, irritability, eccentricities, and dementia; but she has during most of this period been able to attend to household duties. Has had several maniacal outbreaks during this time, and has been twice treated at the hospital, measurably recovering on each occasion. There is no record of a urinary examination during these terms of residence in the hospital, but "sick headaches" and attacks of diarrhea are noted.

On admission for the third time she is noisily excited, talkative, and turbulent; is in good physical health, it is stated; urine not examined. She improved and grew worse by turns, on the whole making no gain. Eighteen months after admission she had a series of convulsive attacks—tonic spasm of all muscles, with stupor and confusion of ideas; gradually recovered during two weeks. Six months later had an attack of total blindness, developing suddenly, enduring for four weeks, then disappearing as suddenly as it came. Ophthalmoscopic examination not made at that time, but two months later no retinal nor other lesion could be discovered. No urinary exam-

ination recorded, but there is a history of nausea, headaches and diarrhea, with dyspepsia, and swelling of the feet. Three months after the attack of amaurosis she had "cramping spells" again, with mental disturbance, rising to maniacal excitement, but passing away after a few weeks. Eighteen months ago urine was first examined—pale, low specific gravity, faint trace of albumin, a few casts. She was at this time complaining much; had lost flesh, had constant œdema, nausea, etc. During the winter of 1891–92 urinary examinations were frequently made, with result as above. In February, 1892, at one examination more albumin and a largely increased number of casts were noted. The following day she fell upon the floor in an epileptiform convulsion; was unconscious for two hours after; was dull, somnolent, and had headaches for near a week; urine during this time containing a good deal of albumin and large numbers and varieties of casts. She then became maniacal, grew noisy, talkative, turbulent and profane. In course of a few weeks she had emaciated consideraby, and was in bed; after this she began improving; casts and albumin in urine diminished; she became less excitable and gained flesh. She is still under treatment, mental and physical condition varying considerably from time to time. Casts, renal cells and albumin are usually present in the urine; indications of an exacerbation of renal disease precedes by a day or two her frequent maniacal attacks.

CASE XXIX.—*White female. Maniacal excitement with nephritis; death.*

History: Age 25, single, some education. No relatives insane. Has had three previous attacks of acute mania. The current attack is also maniacal in character, and developed two months ago, following an attack of acute rheumatism. She has been very boisterous and noisy, erotic, incoherent, untidy in habits and at times violent. She has rapidly emaciated.

On admission she is noisy and excited, is thin, weak, pale, slight elevation of temperature, sordes on teeth, and "typhoid" symptoms, extreme and incessant restlessness, almost choreic in character and persistence. Heart sounds normal; no arterial disease. Urine was first examined a month after admission, was pale but loaded with albumin and contained every variety of cast. Her mental condition

scarcely altered from the time of her admission; she rarely uttered an intelligible sentence, was filthy and destructive, with the constant twisting, turning, motor irritability above mentioned. She failed slowly, had the gastro-intestinal symptoms so often seen; had headache; had a bronchitis; had one attack of erysipelas. Died thirteen months after admission, having emaciated to a skeleton. An autopsy was not permitted.

The frequency with which nephritis complicates other bodily ailments, particularly the acute infectious diseases—scarlatina, pneumonia, influenza, etc., is well known; the all but invariable occurrence of a kidney weakness in cases of tuberculosis has been especially noticeable among our patients. Of twenty-six consecutive cases dying from tubercular disease, not one has failed to show some pathological change—usually a parenchymatous degenerative lesion—in the kidneys; in every case albumin and casts appeared in the urine at varying periods before death—two weeks to six months. Tubercular disease of the kidneys—miliary caseous nodules, usually—has been found in about twenty per cent. of the cases dying of tuberculosis. Case XXX. is a typical example of this class.

CASE XXX.—*White female. Tuberculosis with a renal complication, accompanying chronic melancholia.*

History given at time of admission: Is 16 years old, single, limited education. Factory hand. No relatives insane. Has heretofore been in good health. First menstruated a year ago. Six months ago she, without assignable cause, passed into a state of mild despondency, became listless and indifferent. She grew worse as time passed; developed persecutory delusions, and threatened suicide. Later she had several periods of excitement, during which she screamed, fought, cursed, etc. Has lost flesh.

When brought to the hospital is very pale and weak, but beyond the marked anæmia no bodily disorder is detected. Mentally she was confused, dull and depressed, and exhibited vague and varying depressive delusions. She improved some in bodily health, grew more cheer-

ful, and became able to work; but remained fretful, irritable, and subject to fits of melancholy. About a year after admission had measles, and never seemed so well after. She lost flesh, became more anæmic, and developed a cough which proved to be of tubercular origin, the bacillus tuberculosis being early detected in sputum. A short time after the appearance of the tuberculosis, albumin and casts were discovered in the urine, and other symptoms of renal disease soon followed. Her skin became waxy pale, œdema of eyelids, legs and ankles, feet, and later a general anasarca, appeared. She had headaches and nausea, and on two occasions convulsive muscular twitchings. She slowly lost ground, and eleven months after the onset of the tuberculosis died. During the latter three months of life casts in urine became especially numerous—large hyaline, granular and nucleated, together with many renal cells and much granular matter.

Autopsy showed tuberculosis of lungs, bronchial and mesenteric lymph nodes, with tubercular ulcers in small intestine. Heart was small and flaccid, weighing only four and three-fourths ounces. Kidneys: right weighs three and one-fourth, left three and three-fourths ounces. Capsule is non-adherent, surface smooth. Cortex is comparatively thick, is of a pale yellow color, which brilliantly contrasts with the dark red and small pyramids. Cortical striæ invisible. The microscope shows an extreme degree of degeneration and disintegration in the secreting cells, with little or no change in tufts, in interstitial structures or in blood-vessels.

All writers, I believe, agree as to the frequency of nephritic disease in general paresis, and our experience here is in accord with this view, every case of progressive general paresis we have had under treatment during the past twenty-two months, having exhibited renal casts and albuminuria, usually, too, at an early stage of the disease. One case died in uræmic convulsions, and it is probable that the presence of the kidney lesion hastened the fatal termination in every instance. Detailed reports of cases are unnecessary.

Much has been said and written concerning the occurrence of Bright's disease among epileptics, and many observers report a high percentage of albuminuria,

some going so far as to say that albumin exists in the urine of all who are subject to epileptic convulsions. Whether infinitesimal amounts of albumin can by special methods be detected in the urine of epileptics, is a matter of theoretical rather than practical interest. During the period covered by this report we have had about eighty insane epileptics under care and repeated urinary examinations have been made in all of them (Tests: heat and nitric acid; cold acid; Roberts' nitric-magnesian fluid; acetic acid—ferrocyanide of potassium; picric acid; Tanret's) with the result of discovering albumin in about forty per cent. of the cases, casts in about 30 per cent. and casts and albumin, together, in a little less than twenty per cent. of the eighty cases; in thirteen cases only may it be said that a renal weakness undoubtedly exists. Examinations of the urine immediately after the occurrence of convulsions and during the *status epilepticus* have also failed to show an especial frequency of albuminuria. In one notable instance—a white female patient, twenty-eight years old, in good bodily health—the occurrence in forty-eight hours of more than 300 convulsions was unattended by the presence of albumin, two careful analyses of the urine during the convulsions and one on the day following their cessation, bringing to light neither albumin nor renal casts.

Briefly summarizing the results of our work here, I may repeat the statement elsewhere made, that approximately one-half of the insane patients we treat exhibit a distinct kidney lesion; and this conclusion is verified by the results of *post-mortem* examination. Nearly seventy per cent. of our recent cases show casts and albuminuria. The percentage of recoveries among the non-nephritic is much greater than among those showing disease of the kidneys, though here the question of age is also to be considered, the average age of the nephritic case being greater than that of the non-nephritic. Renal disease complicates all forms of insanity, though probably the

percentage is somewhat higher in melancholia. The chronic forms of nephritis are the more common, and are especially associated with depression and dementia; but we see also a large number of quite typical cases of acute Bright's disease. It is, I think, shown by many of the above cases that the mental disturbance is a symptom of the bodily weakness; in all cases an intimate connection is evident; and, almost invariably, improvement in the renal disorder is attended by distinct change for the better in mental condition.

How much more prevalent renal disease is among our insane patients than among the general population of Alabama it is impossible to positively state. There is more Bright's disease in every community than is recognized; and in general hospitals kidney disease is very common, both as a primary lesion and as a complication of other disorders.

In about sixty urinalyses in non-insane patients, however, casts and albumin together have been found in twenty per. cent. only, notwithstanding the fact that the cause of the examination in many of the cases was suspected renal disorder.

It should also not be forgotten that serious Bright's disease almost invariably produces some effect upon the mental character of the patient; all physicians recognize the minor psychic symptoms of uræmia, and it should be borne in mind that, scientifically speaking, this delirium, emotional disorder, hebetude, etc., differs only in degree from a true "insanity." Not all of the nephritic psychoses are committed to insane asylums, by any means.

Edes, Tuttle, Allbutt, Spallitta and others, insist that mental disorder—especially depression and worry—cause disease of the kidneys. In a certain sense this may be true, since the influence of mind over body must necessarily be recognized. This influence, however, is very indirect; and while continued mental strain may derange the renal as well as other bodily functions, it is not to be held accountable for the frequent co-existence

of nephritis and insanity—it can in too many cases be shown that the kidney lesion preceded the mental disorder. In not a few instances it seems to me probable that the nephritis and the intellectual disturbance are of approximately simultaneous development, and due to a common cause—the poison of an infectious disease, or a poison generated in and absorbed from the intestinal canal, for instance. It is not unlikely that some light will be thrown upon not only the pathology of the mental symptoms of uræmia, but also upon the nature of some forms of the so-called Bright's disease, by the prosecution of the study of the auto-infections, which is just beginning to receive adequate attention. It seems not improbable that many of the so-called "uræmic" symptoms may be in reality the manifestations of ptomaine poisoning, rather than a result of the toxic action of urea or the ammonium salts. The reported effects upon the animal economy of the ptomaines, muscarine, choline, neurine, etc., strikingly resemble the classic picture of some of the forms of nephritis. Instances of mental disturbance due to acute or chronic ptomaine poisoning have been reported by several recent writers.* Most poisons, including the animal alkaloids referred to, are in great part excreted by the kidneys. If these glands perform their full duty, accumulation of the deleterious matter in quantity sufficient to produce ill effects is prevented; if the poison excites disease in the kidney, or if a previously existent chronic renal lesion renders excretion imperfect, the poison, provided the source of its production remain long active, does accumulate in the circulatory fluids and ultimately makes manifest its toxic effects, mental disorder of some kind and degree being a not infrequent symptom.

Whatever interpretation be placed upon the fact of the frequent association of mental disease with kidney

* A. C. Farquharson, "Ptomaines and Other Animal Alkaloids." John Wright & Company, Bristol, 1892.

Wagner, "Physical Basis of Acute Mental Disease" *British Medical Journal*, November 7th, 1891.

lesions, the practical bearing of the subject upon diagnosis, prognosis and treatment, and its consequent importance to the hospital physician, must be evident. It is to be hoped that continued work along this line in the wards of the numerous hospitals of the insane in our country may be productive of results of some permanent value in the pathology and treatment of insanity.

On Certain Animal Extracts; Their Mode of Preparation and Physiological and Therapeutical Effects.*

By William A. Hammond, M. D., Washington, D. C.,

Surgeon-General U. S. Army (retired), late Professor of Diseases of the Mind and Nervous System.

GENTLEMEN:—I wish I could believe all the pleasant things that my friend, Professor Roosa, has, in the goodness of his heart, just said about me. There are two expressions of his, however, which I know to be true. First, I scarcely need any introduction here, for though I have been away from you for more than four years, I feel that I am, if only for an hour or so, back among my own people, and I experience something of the emotions of the captain who walks the quarter-deck of his ship. Second, I am one of the founders of this school. I shall always regard that fact as the most honorable of all the events of my professional life—the one in which I take the most pride. The excellence of the work done here by the faculty and the phenomenal success that has attended upon their labors are circumstances of which they may well feel a justifiable elation and in which emotion I claim the right to share.

But I am not here to-day to speak of the triumphs of this school. I want to tell you of some of the work upon which I have been engaged since I left you and the story will, I think, interest a body of physicians like yourselves, who come here to learn new facts and thus to keep abreast with the progress of the age. You remember that about three and a half years ago Dr. Brown-Séquard electrified the medical and non-professional world by announcing that the expressed juice of the testicles of the guinea-pig was an agent capable,

* A lecture delivered at the New York Post-Graduate Medical School and Hospital, January 16th, 1893.

when injected into the blood, of arresting to some extent the inroads of old age and of curing certain diseases to which mankind is subject. I at once entered upon a series of investigations of the matter, some of the results of which are published in the *New York Medical Journal* for August 13th, 1889. I became convinced that we had in the juice of the organs in question a means of acting upon the body in a manner and to an extent different from that of the effects of any other substance previously known to medical science.

But, though surprising in its action, I found that there were certain practical difficulties in the way of the fresh testicular juice ever becoming of general use in actual practice.

In the first place it had to be used fresh, for if not, there was great danger of a putrefactive process being set up and blood poisoning produced, and this was the result in several cases in which it was used in this country. In large cities there is almost an impossibility of getting the organs in question immediately on their being removed from the animal.

Secondly, it was extremely difficult to filter the thick juice, even when diluted according to Brown-Séquard's directions. Filtering paper would not do, for the morphological constituents passed through and an abscess was very liable to be produced at the point of injection. A porous stone filter absorbs the juice and none of it came through, as there was never a sufficient quantity to saturate the stone and to pass through it. A large amount could not properly be made at one time, as it would not keep, so that it was necessary at every *séance* to prepare a fresh quantity.

After a time, therefore, during which I did my best with the fresh juice; using for this purpose the testicles of the ram and creating several abscesses with febrile disturbance, I gave up this method and turned my attention to preparing extracts, not only of the testicles, but of other organs of the body. It would be to some extent

instructive to go over my failures, but I have not time for that. I can only on this occasion tell you of my success and the conclusions I have arrived at in regard to the subject. And I shall mainly confine my remarks at present to the consideration of one extract—that of the brain, which for convenience I designate "cerebrine." I will merely say that I have prepared extracts also of the spinal cord—"medulline;" the testicles—"testine;" the ovaries—"ovarine;" the pancreas—"pancreatine;" the stomach—"gastrine," and the heart—"cardine," and that I am nearly ready to give to the profession the results of my observations with these substances. Of course the kidneys and the liver being excretory organs, cannot properly be used for the purpose of making extracts to be introduced into the blood. Were we to use them in this manner we should be putting back into the system poisons which it had eliminated, and hence would produce disaster, and perhaps, even death.

The process of preparation of the extract of these several organs, while individually somewhat different, does not materially vary from that used for the brain, which is as follows:

The whole brain of the ox after being thoroughly washed in water acidulated with boric acid, is cut into small pieces in a mincing machine. To one thousand grammes of this substance placed in a wide-mouthed glass-stoppered bottle, I add three thousand cubic centimetres of a mixture consisting of one thousand cubic centimetres each of a saturated solution of boric acid in distilled water, pure glycerine and absolute alcohol. This is allowed to stand in a cool place for, at least, six months, being well shaken or stirred two or three times a day. At the end of this time it is thrown upon a porous stone filter, through which it percolates very slowly, requiring about two weeks for entirely passing through. The residue remaining upon the filter is then enclosed in several layers of aseptic gauze, and subjected to a pressure of over a thousand pounds, the

exudate being allowed to fall upon the filter and mixed with a sufficient quantity of the filtrate to cover it. When it has entirely filtered it is thoroughly mixed with the first filtrate and the process is complete.

During the whole of this manipulation the most rigid antiseptic precautions are taken. The vessels and instruments required are kept in boiling water for several minutes and are then washed with a saturated solution of boric acid. Bacteria do not form in this mixture under any circumstances, but it is necessary to examine it from time to time microscopically, in order to see that no foreign bodies have accidentally entered. Occasionally, owing to causes which I have not determined, though I think it is due to variations in temperature, the liquid becomes slightly opalescent from the formation of a flocculent precipitate. It sometimes takes place in a portion of the extract kept under apparently identical conditions with other portions that remain perfectly clear. It can be entirely removed by filtration through Swedish filtering paper, previously sterilized, without the filtrate losing anything of its physiological or therapeutical power.

Five minims of this extract, diluted at the time of injection with a similar quantity of distilled water, constitute a hypodermic dose.

The most notable effects on the human system of a single dose are as follows, though in very strong, robust, and large persons, a somewhat larger dose is required, never, however, exceeding ten minims:

1. The pulse is increased in the course of from five to ten minutes, or even less in some cases, by about twenty beats in a minute, and is rendered stronger and fuller. At the same time there is a feeling of distention in the head, the perspiration is largely increased, the face is slightly flushed, and occasionally there is a mild frontal, vertical, or occipital headache, or all combined, lasting, however, only a few minutes.

2. A feeling of exhilaration is experienced, which endures for several hours. During this period the mind

is more than usually active and more capable of effort. This condition is so well-marked that if a dose be taken about bedtime wakefulness is the result.

3. The quantity of urine excreted is increased, when other things are equal, by from eight to twelve ounces in the twenty-four hours.

4. The expulsive force of the bladder, and the peristaltic action of the intestines are notably augmented, so much so that in elderly persons in whom the bladder does not readily empty itself without considerable abdominal effort, this action is no longer required, the bladder discharging itself fully and strongly, and any existing tendency to constipation disappears, and this to such an extent that fluid operations are often produced from the rapid emptying of the small intestine.

5. A decided increase in the muscular strength and endurance is noticed at once. Thus, I found in my own case that I could "put up" a dumb-bell weighing forty-five pounds fifteen times with the right arm and thirteen times with the left arm, while after a single dose of the extract I could lift the weight forty-five times with the right arm and thirty-seven times with the left arm.

6. In some cases, in elderly persons, an increase in the power of vision is produced, and the presbyopic condition disappears for a time.

7. An increase in the appetite and digestive power. Thus, a person suffering from anorexia and nervous dyspepsia, is relieved of these symptoms, temporarily at least, after a single dose hypodermically administered.

These effects are generally observed after one hypodermic injection, and they continue for varying periods, some of them lasting for several days. In order that they may be more enduring, two doses a day should be given every day or every alternate day, as may seem necessary, one in the morning and one in the afternoon, and kept up as long as the case under treatment seems to require. The most notable effects are seen in the general lessening of the phenomena accompanying

advancing years. When some special disease is under treatment, the indications for a cessation of the injections will be sufficiently evident, either by an amelioration or cure.

To the substance obtained in this manner and held in solution, I have given, as stated, the name of "cerebrine" as the one, in view of its origin, most appropriate.

I have employed the solution of "cerebrine" with curative effects in many diseases of the brain and nervous system. It is almost specific in those cases of nervous prostration—the so-called neurasthenia—due to reflex causes or excessive mental work, or persistent and powerful emotional disturbance. A hypodermic injection of five minims, twice daily, continued for two or three weeks, and without other medicine, being sufficient to produce cure. It has proved equally effectual in cases of cerebral congestion, in which the most prominent symptom was insomnia, sleep being produced usually in the course of two or three nights. I have also employed it successfully in migrane, hysteria, melancholia, hebephrenia—the mental derangement occurring in young people of either sex at the age of puberty—in old cases of paralysis, the result of cerebral hemorrhage. In neuralgia, sciatica, and in lumbago, it has acted like a charm, except in one case of facial neuralgia, in which it did not appear to be of the slightest service.

I have employed it in eleven cases of epilepsy. Three of these were of the *petit mal* variety; in two the effect has been so marked that I am not without the hope that cures will result, although I am not able, as yet, to speak positively on this point, the patient having been less than a month under treatment. In the other, no influence appears to be produced.

Eight cases were of the *grand mal* variety. In two of these the number of paroxysms has been reduced more than one-half, and greatly mitigated in severity. In six other cases, which were of long duration, I could perceive no curative effects.

In a case of general paresis no therapeutical influence was apparent beyond that of arresting the delusions of grandeur for a few days. In a case of hebephrenia, however, occurring in the person of a young lady eighteen years of age, the effect has been most happy, the symptoms entirely disappearing in a little more than a month's treatment.

In several cases of nervous prostration, the result of long-continued emotional disturbance, and in which there were great mental irritability, dyspepsia, physical weakness, loss of appetite and constipation, relief was rapidly afforded. In three other cases in which the most notable symptom was functional cardiac weakness, the effect has been all that could have been desired. In these cases it was employed in conjunction with "cardine," the extract of the heart of the ox, made in the manner already described.

It is not my intention at the present time to bring before you all the points of this interesting subject, or to allude further to experiments in the treatment of other diseases, which are not yet concluded. In the near future I shall enter more largely into the consideration of the matter in all its details. I will only add now that I have used with excellent results in cases in which it seemed to be indicated, the extract of the testicles of the bull and also that of the pancreas of the ox, and these investigations also will be given to the profession at an early day. The first named of these—"testine"—I have found to be of the greatest efficacy in the treatment of sexual impotence, when it has been the result of venereal excesses, and in cases of too frequent nocturnal seminal emissions.

It has recently been alleged by some medical authorities, that there is no difference in the physiological or therapeutical action of medicines, whether they be introduced directly into the blood by hypodermic injections or taken into the stomach, but it is scarcely worth while to seriously combat this assertion. For while it may be

true that some substances are not altered by the gastric juice before they are absorbed into the system, it certainly is not true of many others, and it surely is erroneous as regards those of animal origin. Indeed it is, I think, doubtful if anything capable of being acted upon by the gastric juice and of being absorbed into the blood gets into the system in exactly the same form in which it got into the stomach. And I am very sure that all organic matters, without exception, undergo radical changes under the action of the gastric juice, in some cases amounting to decomposition and recomposition.

It is well known that Woorara, the virulent arrow poison used by the Indians of South America, and which is invariably fatal to animal life when injected into the blood, is innocuous when taken into the stomach, even in very large quantity. I have ascertained, by actual experiment, that the poison of the rattlesnake may be swallowed with impunity. During the course of my medical service in the army on the Western plains, I have collected a large quantity of rattlesnake poison. A small fraction of a grain of this injected hypodermically was sufficient to kill a dog in a few minutes, while previously the same animal had been made to swallow a half a drachm without the production of any apparent result. Experiments made with the saliva of hydrophobic animals proved that it is rendered harmless by the action of the gastric juice. The vaccine virus may certainly be swallowed with impunity, as has been shown by repeated experiments upon animals.

Relative to the animal extracts to which I am now referring, I have ascertained beyond question that if they are inclosed in capsules so as to reach the stomach without coming in contract with the mucous membrane of the mouth, they are absolutely without physiological or therapeutical effect so far as can be perceived, even when given in quantities of a teaspoonful or more, but if dropped upon the tongue in double the quantity used for hypodermic injection and allowed to remain in the

mouth without being swallowed—thus avoiding the action of the gastric juice—they are absorbed and exert a slower but still decided effect, though nothing comparable to that produced when they are administered hypodermically.

Now, gentlemen, a few words in regard to the theory upon which these animal extracts exert these remarkable effects. I have thought a good deal upon the matter, and I think I have arrived at something like the truth. But after all a theory, even when supported by indisputable facts, is not a matter of so much importance as the facts themselves. And it is better if you are sure of your facts to have an erroneous theory than none at all. The one I am going to propose, I think, in accordance with physiological law, and I believe that it will strike your minds as being based on common sense, and as being sufficient to account for the observed phenomena. Briefly stated, it is as follows:

Organic beings possess the power of assimilating from the nutritious matters they absorb, the peculiar pabulum which each organ of the body demands for its development and sustenance. The brain, for instance, selects that part which it requires; the heart, the material necessary for its growth and preservation, and so on with the liver, the lungs, the muscles and the various other organs of the body. No mistake is ever committed; the brain never takes liver-nutriment, nor the liver, brain-nutriment; but each selects that which it requires. There are, however, diseased conditions of the various organs in which this power is lost or impaired, and as a consequence disturbance of function, or even death itself, is the result.

Now, if we can obtain the peculiar matter that an organ of the body requires and inject it directly into the blood, we do away with the performance of many vital processes which are accomplished only by the expenditure of a large amount of vital force.

Let us suppose a person suffering from an exhausted

brain, the result of excessive brain-work. Three hearty meals are eaten every day; but no matter how judiciously the food may be arranged, the condition continues. Now if we inject into that person's blood a concentrated extract of the brain of a healthy animal we supply at once the pabulum which the organ requires. Then, if under this treatment the morbid symptoms disappear we are justified in concluding that we have successfully aided Nature in doing that which, unassisted, she could not accomplish.

All this is applicable, not only to the brain, but certainly to the heart, the generative system, the spinal cord, and I believe other organs of the body. I have repeatedly seen a feeble heart rendered strong, the blood corpuscles increased in number, and the color of the blood deepened by the use of cardine, and I have many times seen an exhausted sexual system restored to its normal power by the use of testine, cerebrine and medulline.

Such is the system, and yet I am not quite sure that it is entirely new. I recollect reading nearly forty years ago an account of some observations made by, I think, a German physician, relative to the treatment of diseases of the several organs of the body by a system of diet, consisting of the corresponding organs of healthy animals. Thus, liver-disease was treated by beef's liver, heart-disease by beef's heart, brain-disease by beef's brain, and so on. My memory seems to be clear on the main point, but I have searched in vain for the paper to which I refer. The fact, however, that the various foods in question were cooked and were taken into the stomach constitutes a great difference with the system which I am now discussing, both physiologically and therapeutically, and the results do not admit of comparison. The germ of the idea, however, is the same, and I cheerfully yield to my unknown proto-observer whatever distinction may be claimed on the score of priority.

And while I have been conducting my observations

others have been at work in the same direction, but their investigations do not seem to have led to any very definite results, or to have been systematically carried out. Generally they have been performed with the fresh juice of the organs, and although at first sight this method would appear to be preferable to any other, experience shows that it is, as I have said, not unattended with danger, and I have certainly ascertained that extracts made with glycerine and pressure, extemporaneously, are absolutely without effect, either physiologically or therapeutically.

And now, gentlemen, I commend this whole subject to your serious attention. I shall leave a quantity of cerebrine with Dr. Leszinsky for distribution among you. I only ask that you will communicate to me the results of your observations.

Some Remarks on Epilepsy.*

By John Ferguson, M. A., M. D., Ph. D., Canada,

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FEW diseases have attracted more attention than epilepsy. The reasons for this are not hard to find. The facts of its frequency, distressing characteristics, that it invades the palace as well as the cottage, and its intractable nature, have all tended to throw over it, in the popular mind, a large amount of mystery and dread. To the medical man it is a disease of much importance and ought to claim our warmest attention. In all the range of our daily work, no object can come before us calculated to evoke our sympathy more than that of a young man or woman, who is the victim of this malady. In this paper I am not going to take you over the ground that has already been traveled so often by others, but to venture to lay before you the results of my own investigations and researches on epilepsy. Some of my conclusions experience may modify, yet I trust that what I have done in this field, may bear some clusters of fruit for the relief and comfort of one large and urgent group of our fellow beings.

Epilepsy has long been called a functional disease. What is meant by this is probably as varied as medical men are numerous, no two exactly agreeing upon what is meant by the term functional. Wm. Osler, in his work on "Practice of Medicine," groups epilepsy under the general and functional nervous diseases, and defines it as "an affection of the nervous system, characterized by attacks of unconsciousness, with or without convulsions." James Ross, in his work on "Nervous Diseases," classifies

* Read by invitation before the Huron Medical Association.

epilepsy as "a spasmodic affection from functional disease of the cortex of the brain." Allan McLean Hamilton, writing in "Pepper's System of Medicine," defines epilepsy to be "nothing more nor less than a discharge of nervous energy from an over-excited, or what may be called a dynamo-pregnant nerve center, or collection of centers, and the predominance of motor or sensory phenomena determines the extent and order of the parts involved. As a rule, an epileptic paroxysm is but a symptomatic expression of a complex derangement, and it is best to formulate our nomenclature with the idea, in the first place, of location; in the second, with reference to the prominence of motor or sensory expressions; and, finally, with regard to etiology." W. R. Gowers, in his work on "Nervous Diseases," says that "the term epilepsy is applied to a disease in which there are convulsions of a certain type, or sudden loss or impairment of consciousness, but in which the convulsions are not due to active organic brain disease, to reflex irritation, or to abnormal blood states, and in which the loss of consciousness is not due to primary failure of the heart's actions." J. S. Bristowe says, "Epilepsy is a functional disorder of the nervous centers, characterized by sudden seizures of temporary duration, and occurring at irregular intervals, in which the patient either loses consciousness or presents some other form of mental disturbance, or has tonic or clonic convulsions, or all of these phenomena in sequence." J. Russell Reynolds, in his "System of Medicine," defines epilepsy as "a chronic disease of which the characteristic feature is a sudden trouble or loss of consciousness, this change being occasional and temporary, sometimes unattended by any evident muscular contraction, sometimes accompanied by partial spasm and sometimes by general convulsions." C. E. Brown-Séquard, in "Quain's Dictionary of Medicines," says that "epilepsy is an apyretic nervous affection, characterized by seizures of loss of consciousness, with tonic or clonic convulsions." E. C. Seguin says, "This

formidable affection has no uniform pathology; it is as yet only a symptom that may be produced by numerous pathological conditions. Of organic or symptomatic epilepsies, some are due to encephalic disease or injury; others depend upon peripheral disease or injury; and, lastly, they may represent toxæmic conditions, as the uræmic, gouty, etc."

The above are a few definitions of the disease, taken at random. It will be seen that no two are the same, nor do any two exactly agree. The authorities, however, from whose writings the quotations have been taken are among the very foremost in the medical word. If these cannot agree, there need be no great wonder if we to-day should not be of one mind. Of all the quotations which I have just made from standard authors, to my mind that from E. C. Seguin's lectures contains the germs of most truth and gives a valuable key-note to the whole field to be discussed in dealing with epilepsy.

Epilepsy is not one disease, but several diseases. Think of the numbers of epileptics who have been relieved of their terrible convulsions, due to syphilis, by the judicious exhibition of iodides and mercurials. The cases are growing in numbers, from year to year, who are benefited, or cured, by the intervention of the surgeon, who removes a piece of depressed bone, or a tumor. Other cases again are due to irritation of a peripheral origin. One patient was cured by a circumcision; another had epileptic fits from the disturbance due to the oxyuris vermicularis. The distance between a convulsion in a child from dyspeptic trouble, and a true epileptic fit is not great. Clinically they are identical. Setting aside all those cases due to central, or peripheral, irritation, there still remains a great majority of all cases of the disease that must be grouped under the head of true idiopathic epilepsy, and to which the various definitions that declare it to be a functional disorder would apply.

What is a functional disease? The very use of such a term sounds absurd. Of the clinical features of ordinary

epilepsy, nearly all fall readily under the headings of disturbances of consciousness, motion and sensation. Our consciousness is made up of all the sensations that reach the ultimate perceptive centers. "All our knowledge begins with experience," said Kant. This doctrine has never been called in question, nor indeed could it. These sensations, from our own bodies, and from our environments, lash upon the shores of consciousness in an endless flow. Then there are portions of the nervous system that originate motor movements. These movements may be originated in several ways: Voluntarily, as when one raises his hand to his head; reflexly, as when one touches accidentally a burning object, and the hand is suddenly withdrawn; and centrally, as when some irritation is applied to the cerebral cortex, and the hand is thrown into spasms. Of the first, we have no examples in epilepsy; of the second, we have in all those cases due to peripheral irritation; while of the third, we have examples in those cases due to tumor, depressed bone, and far more numerously, to toxic conditions of the blood. One of the regular functions then of the cerebral cortex is to give rise to motion. When this motion becomes involuntary and beyond the control of the will, the essential condition exists that characterizes epileptic convulsions. They are beyond the control of the will, and the movements are due to the liberation of cortical energy that the epileptic can neither prevent nor control. In the spasms of epilepsy, therefore, we find nothing that is not found in the perfectly healthy individual, so far as the mere motions are concerned. The abnormal part is that the movements are not under control. The cortex of the brain, in other words, is only doing its usual work. The movements are not pathological: it is the way in which they are started that is pathological. Here I think we have genuine pathology. A cancer is an epithelial tumor. It is not the epithelial cells that are at fault; but the manner in which they are related to the surrounding tissues, and their mode of development and growth. In

like manner in true epilepsy, it is not the spasm that is at fault. That is only function, and very proper function. What is wrong is the manner in which the spasm is induced; and here we have genuine pathology—true disease. Viewed from this stand-point, I think epilepsy will cease to rank as a functional disease. The ancients did not regard the contortions of the epileptic as functional, but as the result of possession by evil spirits; and, while we do not now believe in the doctrine of evil spirits, nevertheless we must give our unqualified adherence to doctrine of possession, but this time the possession of some abnormal, diseased, pathological process, holds sway.

You will see from what I have said that I do not accept the classification of epilepsy as a functional disease of the nervous system. There would just be as much sense in speaking of functional fever. The sensory and motor disturbances, met with in epilepsy, are the same as those met with in health. Their mode of origin and their arrangements are irregular, *bizarre* and abnormal.

Whole families are sometimes carried off by consumption. What does this mean? Does it mean that they were born with the disease? No. What it means is that they were born with a peculiar conformation of body that rendered them liable to a certain disease. I have histories of families in which eczema has existed for four generations. We know that gout will run through generation after generation, with almost endless variations. Further, we know that nervous diseases may change in their form, but still lurk in a family with wonderful tenacity. One family, the great-grandmother was very strange, judging by family tradition, the grandmother was confined to an asylum in Ireland, the mother is in an asylum in this country, and the daughter is at present quite hysterical. In another family, I know, among the near blood relatives, are a case of insanity, one of diabetes, one of epilepsy, one of chronic rheumatism (gout), and one of severe megrim, and one of trigeminal neuralgia.

Nothing in the whole range of practical medicine is more fully established than the fact that certain individuals have certain tendencies. As Ribot has well said "the individual is the epitome of the past of his species." Certain parts of the cerebral cortex we know will produce convulsive movements if irritated, or stimulated. We know further that there are varying degrees of stability in the nervous system and that the stress that would drive one person insane would have no ill effect upon a second. In like manner, the same amount of stimulation, or irritation, directly or indirectly applied to the motor areas of the brain, that would give rise to convulsions in one, would not do so in another. It is not every child who is troubled with worms, indigestion, is teething, or has some fever, that is attacked with convulsions. In like manner, it requires a greater stress, or stimulus, to be brought upon the nervous system of one person to cause epilepsy than in the case of another. Gowers, in his work on "Nervous Diseases," says, "The phenomena indicate that there is a discharge of gray matter, and there is nothing to warrant us in going beyond the gray matter concerned, in our search for the cause of the discharge. It is certain that this may commence in various parts of the cerebral hemispheres, even in the cortex, and possible that it may begin in lower centers, even the medulla. Epilepsy must then be regarded as a disease of the gray matter, most frequently of the gray matter of the cortex."

The above is the opinion of one whom we all respect, and in my own case, I do so from personal knowledge. But while we all, no doubt, endorse the theory of J. Hughlings-Jackson, as approved of by Gowers, that epilepsy is due to discharge of energy in the gray nervous matter, I do not think for a moment that we should be satisfied with the statement of Gowers that "there is nothing to warrant us in going beyond the gray matter concerned in our search for the cause of the discharge." Most certainly this is the very field in which all scientific

physicians ought to work. Along this line we have to determine why the gray matter has become so unstable in certain individuals. Then we have to ascertain what conditions, from time to time, precipitate these discharges, and it is here, with all respect to Gowers, that I am fully convinced we shall be led "beyond the gray matter concerned." While we grant the theory of discharge, we shall find, as our knowledge extends, that there are causes for the discharge beyond the gray matter. This is the view I now hold.

Victor Horsley, in his address on "The Origin and Seat of Epileptic Disturbance," which appeared in the *British Medical Journal* of April 2d, 1892, gives the strongest possible proofs that the motor disturbance, the change in respiration, the cry, and the loss of consciousness, are all caused by discharge in the cortex of the brain. He says: "So far, therefore, it is clear the cortex is probably the chief seat of the disturbance of respiration and of the cry. Again, regarding the spasms, he says: "We are justified in concluding that the cortex cerebri is the seat of production of the spasms of idiopathic epilepsy." In summing up his reasoning on the loss of consciousness, states that the "cortical mantle is affected early, and consequently the loss of consciousness." In his lecture he refers to the valuable experiments of Marci, Magnen, Todorsky, Bechterea and himself, with absinthe in the production of epileptic fits artificially. This agent, when injected into the blood, gives rise to all the features of a genuine attack of epilepsy. This can only be brought about by the action of this agent on the cerebral cortex. This proves at least one thing, that the existence in the blood of a toxicant, possessing certain qualities, can produce fits. In other words, it is epileptogenous. Here we have a key-note to explain the discharge.

The nervous tissue of different individuals responds very differently to certain active drugs and toxic agents. One lady patient can take gr. 1-100 of Duquesnel's

crystal aconitia, and not feel the slightest tingling in the tongue and lips, while another feels the tingling distinctly after the exhibition of gr. 1-500 of the same preparation. In the case of strychnine I am acquainted with one patient who is speedily affected with doses of gr. 1-60, while another lady of about the same age and weight can take without inconvenience gr. 1-10. These instances prove very clearly that there is a very great difference in the nervous tissues of different persons. But the lesson, I think, taught by these peculiarities in the amount of a drug that can be tolerated, is that different persons will possess varying powers of resisting poisons and irritants that may be engendered within their own systems. Thus, the same amount of urinary products that, circulating in the blood of one person, would give rise to uræmic convulsions, would not have this effect on another person. Grant, as I shall show later on, that uric acid in the blood, in excess, is a convulsant, we have an explanation for many cases of epilepsy. By the term, neurosis, we mean an acquired or inherited instability of the nervous tissue. On this unstable nerve matter, the uric acid in the blood acts with certainty and rapidity. On the other hand, if the nervous economy is stable, the uric acid would not act so readily and fits would not likely be produced. A small excess of this agent might be quite sufficient in a neurotic subject to cause the nerve discharges that produce the phenomena of an epileptic seizure.

I have just said that uric acid in the blood in excess is a convulsant. To prove this statement I shall offer a few remarks. In the *Therapeutic Gazette*, September 15th, 1891, I made the following remark, in a paper on "Uræmic Coma and Convulsions:" "In five cases of uræmic convulsions, where I have had an opportunity of examining the urine, there was an excess of uric acid in the urine, and consequently an excess in the blood. The importance of this is very great, as uric acid in the blood in excess tends to cause convulsions."

To the above I wish to add three additional cases. In one of these, a puerperal case, the urine drawn off by the catheter, during and after convulsions, yielded an excess of uric acid to urea. The normal relationship is 1.33. In this case the uric acid was to the urea in the ratio of 1.15 on one occasion; 1.18 on a second; 1.17 on a third; 1.21 on a fourth, and 1.29 on the fifth examination. As the ratio approached the standard of 1.33, the convulsions became less frequent and severe. The other two cases were examples of chronic contracted kidney. In both the pulse was very tense, the elimination of uric acid below the normal ratio, and in both there were convulsions. It does not follow that there may not be convulsions without the presence in the blood, in excess, of uric acid, but it does follow that when it is there in excess it acts as an exciter of motor spasms. Strychnine is not the only cause of spasms, yet we know when there is more in the system than can be tolerated it does produce spasms.

At this point let me mention a case. The patient, female, aged sixteen, has been under my observation for over two months. One examination of the urine, made several days after an attack, gave uric acid to urea in the ratio of 1.42. This you will see is much below the normal standard. During and after several hard convulsions, which she had between the hours of 1 and 7 P. M., several samples of urine were carefully examined and stood as follows; 1.20, 1.19, 1.25 and 1.13. The last sample was obtained just after a very severe paroxysm.

Of thirteen other examples of epilepsy, I have, so far, succeeded in proving that the uric acid elimination fluctuates with the attacks in eight, being below the standard in the intervals, and above the standard at the time of, and just after the attacks. Another important relationship is that the more the uric acid rises above the standard of health, at the time of the seizures, the more severe are these, and distinctly of the gravior type. The remaining five examples, so far, have not yielded results

sufficiently definite to justify any conclusions. I may say here, however, that in these I have not had very good opportunities for studying the urine; and that the attacks have not, as a rule, been frequent nor severe. These cases are still under observation, and any result I may arrive at shall be recorded on some future occasion.

E. C. Seguin, in his excellent lecture on "Epilepsy," remarks as follows: "But there remains many cases of epilepsy in which the most careful examination fails to reveal the presence of any gross lesion or toxæmic state; and these go to make up the group of idiopathic epilepsy. The aggressions of scientific pathological research and the perfections in diagnosis tend constantly to reduce this group. There are also cases in which, during many years, the epilepsy appears idiopathic, and finally, perhaps in the course of a few weeks or months, definite symptoms of cerebral disease appear and enable the physician to properly classify the case."

The above is the careful deliverance of a scientific physician of great experience. Cases that were once regarded as true epilepsy are now regarded as only symptomatic. The number of cases that are regarded as idiopathic are continually on the decrease. For my own part I do not regard epilepsy as a distinct disease; but rather as a group of symptoms, variously related to each other and recurring in many different combinations, due to real pathological, or morbid states. It is our duty to work out these underlying conditions. When our means of diagnosis are much more perfect than they are at present, the number of cases of epilepsy that shall be called idiopathic must continually decrease; while the number that shall be regarded as symptomatic must ever increase.

In 1882, or just ten years ago, I began a series of examinations and analyses of the urine of persons in all conditions of health and disease, exercise and rest, food and fasting. These examinations now amount to, in round numbers, four thousand. The results of these investigations show that in nine cases of epilepsy, out of

fourteen, revealed the important fact that the balance in the excretion of uric acid was deranged from some cause, or causes. In the intervals between the attacks this agent is stored up in the system; and, at times, leave its hiding places, gets into the blood in excess, acts upon an unstable nervous economy, and induces the various phenomena of an epileptic fit. Of the other five cases I have not, as already stated, been able to make my observations as complete as I should desire; and perhaps after I have had them under my watch for some time longer, something more definite may be discovered.

Granted the unstable condition of the central nervous system that must exist in all epileptics, and we can readily see how reflex irritation may sometimes cause convulsions. An irritable ovary, a long and close prepuce, dyspepsia, intestinal worms, ocular defects, all may prove at times the match that sets the powder aflame. While all this is true, and ought to receive the attention of the therapeutist, who seeks to treat a case of ordinary epilepsy, yet the success that has attended all attempts to cure epilepsy, along these lines alone, has been so limited we must look more afield for the causes and the remedies. Bad feeding and housing in the case of parents and children, intemperance, immoral, low lives, the cachexia from inherited and acquired syphilis, mental strain and worry, all lay the foundations for a weakened organism. The nervous system is the flower and fruit of the human body. It is the most highly evolved, complex, and differentiated; and, therefore, the most likely to suffer from bad environments. Any arrest in perfect development will be seen here in its most telling forms. Looking at the close connection that exists between gout, diabetes, neuralgia, epilepsy and megrim, are we not justified in believing that in by far the larger number of these cases there is a dyscrasia of constitution that has taken a long time, probably many generations, to fully form? Jonathan Hutchinson, in his famous lectures on the "Pedigree of Disease," has shown that gout

is one of the slowest diatheses to acquire; and, when once acquired, one of the slowest to disappear, even under favorable conditions. I think the habit known as the typical neurosis is much the same. In my article on the "Dietetic Treatment of Epilepsy," which was published in the *Therapeutic Gazette* for 15th December, 1890, it is stated that while "I would not go the length of saying that epilepsy, in all cases, was a food diathesis, yet I was strongly inclined to think that it tended that way in most cases." Dr. A. Haig, in his most excellent work on "Uric Acid," uses the following language: "It seems, then, that epilepsy is not only, as has long been known, related to gout and to migraine, but it has, as I have pointed out, an important relation to the relative excretion of uric acid in the urine, an excess of uric acid in the urine being the index of an excess in the blood, and this by its effect on the vessels and the heart may be the actual cause of such changes in the cerebral circulation as will give rise to fits." Haig believes then that uric acid in excess in the blood is a cause for the convulsions. This view my own researches for ten years abundantly corroborate; and we all know that the uric acid diathesis is a food diathesis. That the presence of uric acid in the urine in excess corresponds to an excess in the blood, has been so fully dealt with and proven by Haig, that any remarks of mine could only add to the evidence given by him. I may, however, mention that, in the epileptic whose urine yields uric acid to urea in the proportion of 1.15, a sample of blood, obtained by cupping, yielded .0578 per cent., a very considerable increase above the normal.

On a full nitrogenous diet, consisting of meats, eggs, cheese, beans, lobsters, with gluten bread, and extending over a period of thirty days, my daily average excretion of urea was 530 grains, and of uric acid, 14 grains. I then reduced my nitrogenous food more than one-half. After allowing two weeks to pass, so that all stored uric

acid might be eliminated, I made the same daily investigations. The urea for a similar period of thirty days, averaged 361 grains per diem; and the uric acid, 11 grains per diem. In the first series of experiments, the uric acid was daily .097 grains per pound of body weight, while in the second series of experiments, the uric acid was .075 grains per pound of body weight. It will thus be seen that on a non-nitrogenous diet the total formation and elimination of uric acid fell from 14 grains per diem to 11 grains per diem. In one of my epileptic patients I have reduced the uric acid output from 17 grains to 12 grains per diem, or a reduction of 1,825 grains in the course of one year, a quantity quite sufficient to have given rise to many a nerve storm. In another of my epileptics the reduction is even greater, being from 18 grains to 12 and 13 grains daily. With these reductions in the urea and uric acid in the urine there was a permanent reduction in the acidity of the urine. This is in accord with the statement of Haig that a vegetarian diet lessens the acidity of the urine. The other side of the problem, that a vegetarian diet increases the alkalinity of the blood, is only surmised by the same authority. My own examinations of the blood in my cases fully prove this.

In the above observations made on myself, while taking the full nitrogenous diet, the alkalescence of my blood fell and the acidity of my urine rose. When excreting 530 grains daily of urea I should have excreted 16 grains of uric acid. In fact I only excreted 14 grains. Thus 2 grains were daily retained. This would be an additional argument in favor of the non-nitrogenous diet for epileptics. The free use of a vegetable diet in these cases maintains a higher degree of alkalinity in the blood, and consequently a greater dissolving power over uric acid. In this way the amount formed would be excreted regularly, and the same risk of its being stored in the system, as the joints, liver, spleen, etc., would not occur. Thus, much of the danger of a large quantity of

uric acid being dissolved and thrown into the blood stream, disappears. Suppose, for example, that a large amount of uric acid is lurking in the system, and the blood becomes decidedly more alkaline, the results are that the acid is brought out from its hiding places, thrown into the circulation, acts on the brain and ushers in a fit.

For a number of years I employed the hydrochloric acid, sulphate, and sulphate of copper methods of estimating the amount of uric acid in the urine. For the last five years I have employed Salkowski's or J. B. Haycraft's plans. As the latter is much quicker and the operation less complicated than the former, I have used it most frequently. For the benefit of those who may not have met with this plan or given it any special study, I shall enumerate the various steps in the examination of any sample of urine or blood: (1) In working out this process you take 25 cc. of the urine to be examined. To this is added one grm. sodic bicarbonate: then add two to three cc. of ammonia fort. to precipitate ammonia-magnesic phosphates. (2) Now add one to two cc. of a solution made by dissolving five grms. nitrate of silver in 100 cc. of water, to which enough strong ammonia is added to make the solution clear. This will give a gelatinous precipitate, which is collected and thoroughly washed in an asbestos filter. (3) The precipitate is now dissolved out of the filter by means of pure nitric acid, 30 per cent. (4) To this nitric acid solution of the precipitate is added a few drops of a saturated solution of potash-alum. (5) You then drop in a solution made by dissolving eight grms. of ammonia sulphocyanate in crystals in one litre of water, diluted when used by nine volumes of water. A whitish precipitate with a transient reddish coloration will be formed. When a sufficient quantity of the sulphocyanate solution has been added, the red color becomes permanent. (6) Now multiply the number of cubic centimeters of the sulphocyanate solution that has been used by 0.00168, and the result will be the uric acid in grammes.

To examine blood, you slowly add the blood to ten times its volume of boiling water. The blood is rapidly coagulated by this means. The mixture is then boiled for ten minutes, when the solid particles are removed by decantation. The fluid is now evaporated down to the bulk of blood originally used. Haycraft's method is then applied just as in the case of urine.

The above process is not difficult. Indeed, with the solutions at hand, the whole examination can be done in half an hour. I contend that with the knowledge that urinalysis has thrown upon this subject, no physician does his duty to an epileptic patient who does not make the examinations of the urine. After thorough search in this direction if there should be detected any of these marked fluctuations in the excretion of uric acid, and indications that, in connection with the fits, there is a plus excretion of uric acid, the necessity of putting the patient on a non-nitrogenous diet is very clear.

The regulation of the diet of epileptics has often been mentioned by writers upon the subject, but these regulations amount to little more than the general expression of the truth that indigestion should be guarded against. Epileptic fits often come after the ingestion of food and particularly if that food has been of a heavy or indigestible character. Now there is an explanation for this that lies beyond the mere gastric irritation produced by such food. The taking of a full meal rapidly and temporarily decreases the acidity of the urine, and *per contra*, increases for the time the alkalinity of the blood. This condition would wash out of its hiding places the uric acid and throw considerable quantity into the blood. I have already shown that the action of uric acid in the blood in excess is that of a convulsant. This would be the temporary action of the gastric irritation and dyspepsia arising out of an overloaded state of the digestive organs as well.

"Vegetable food makes the urine alkaline," says Landois, in his standard work on "Physiology." This is a statement

that can be proven by any of you. I have already shown that an animal and highly nitrogenous diet increases the acidity of the urine and lowers the alkalescence of the blood. In this condition of these reactions uric acid would be stored up in the system. Should the person be subject to fits and have a quantity of uric acid stored away, some temporary attack of dyspepsia is sure to come, the stored acid will be dragged out and a convulsion ensue.

Now, I have quoted Landois, to the effect that a vegetable diet renders the urine alkaline, and consequently increases the alkalinity of the blood. This, you will at once see, would increase the power of the blood to hold uric acid in solution; and, if there be at the time, a quantity stored in the tissues of the body, it will be brought into the circulation. This is the very state of things that would tend to cause fits. Why then give a vegetable diet? The answer is at once to hand. Because it lessens the total formation of urea, and, in that proportion, the uric acid, it keeps the blood more alkaline, it washes out of the system the stores of uric acid already formed, and it prevents future stores from being laid up.

I shall here mention an experience in this direction of very great importance. One of my epileptic patients, a young woman of 19 years, had been taking potassium bromide to the extent of nine grms. daily. Her mental and physical condition was very bad. The urine at the times of fits yielded a great excess of uric acid. I recommended to her brother, a very intelligent person, the advisability of a diet consisting of vegetables and milk. When first put upon this diet the fits increased in frequency; and the brother told me that he had thought the change of food was not agreeing with his sister, and that she was getting worse. Frequent and careful examinations of the urine, however, revealed the important facts that the urine was less acid than formerly and sometimes alkaline, that the blood was more alkaline,

and that the quantity of uric acid excreted was considerably increased. This increase was due to the elimination of the newly-formed uric acid, and of some of what was stored in the system. While this excess of uric acid was in the blood, the fits became more frequent. I assured the brother that this would come right in a short time. She has now been under treatment a year; and the attacks can be controlled by the daily exhibition of three grms. of potassium bromide. The mental and physical condition of the patient has improved very much.

Here let me quote from my paper in the *Philadelphia Medical News* of January 2nd, 1892. "With regard to uric acid in the blood, I am quite in accord with the work done by Dr. A. Haig. An excess of this agent in the blood can act as a direct exciting cause to convulsive attacks. I have for a long time had under treatment a well-developed gentleman, now in his thirty-third year, who has had epilepsy since an attack of inflammatory rheumatism in his seventeenth year. I have often examined his urine, and always found a deficiency of uric acid before attacks, and excess during and just after and then a deficiency afterwards again. To put this to the test, I have on several occasions told him to eat meats, canned salmon, lobsters. cheese and eggs freely, and to drink ale, beer or stout at meals. As the direct outcome of this the epileptic attacks became more frequent and prolonged, the primary pallor of the surface more distinct, the convulsive movements stronger, the subsequent paralysis greater, the after-sleep and headache more intense, than when care was taken to use less meat and no beer or ale."

This case is just the opposite to that of the young lady already mentioned. In her case the continued use of a vegetable diet and milk soon effected a marvelous reduction in the frequency and violence of the epileptic attacks. In the case of the young man just given a meat and beer diet greatly increased the frequency and severity of

the seizures. If this is not proof, I fear the scepticism to be overcome is very strong.

As I have already urged in former articles, dealing with this matter, I am not prepared to say that all so called victims of true epilepsy suffer from an excess of uric acid in the blood and tissues of the body. A very large record of cases must be made and most careful analyses of the urine made to decide the question. I think, however, that my work so far, both chemical and clinical, warrants me in making the assertion that a very considerable proportion of the cases are related to a uric acid diatheses. This, in other words, is the same dyscrasia we have to deal with in gout and rheumatism. I have also stated elsewhere, and state here, that migraine is very frequently associated with the same condition of blood and tissues. But even though it should be shown that a certain number of epileptics do not show the uric acid diathesis, I have fully convinced myself that these patients do decidedly better on a diet almost entirely of a vegetable composition; and that the only animal food they should be allowed is practically milk. Dr. E. C. Seguin says, "I attach a positive value to green vegetables." From what I have said, you will see the *raison d'etre* for this. These articles of diet are rich in the alkaline phosphates which nourish the nerve matter, and at the same time keep up a greater degree of alkalinity of the blood, and favor the elimination of the uric acid.

It is worthy of note that so eminent an authority as Buzzard regards some cases of vertigo of uric acid orgin. He speaks of the marked diuresis that has followed these attacks of vertigo. There can be no doubt that this diuresis was due to the fall in the arterial tension, as the uric acid disappeared from the blood into the tissues and through the urine. Between true vertigo, migraine, many cases of hysteria and epilepsy, there is not a long way to travel.

From causes due to hereditary conditions of ill health, njuries to the brain at some time, errors in diet, over-

work in school, when the brain is developing; excessive venery, either natural or by abuse; anxiety and worry, improper and irregular amounts of sleep, the brain becomes over-excitable and its nutrition prevented. Under these conditions it becomes a matter of less difficulty to provoke involuntary, or pathological, discharges in the brain. Every time, too, that such an unhealthy discharge takes place, it renders its recurrence an easier matter. Every time the trigger is pulled, the gun is more easily fired. Epilepsy, like everything, must have had a beginning; and, I think in the above ways, we can see much of the evolution of this painful disease.

Do not think for a moment that I put forth the dietary treatment of epilepsy as an infallible cure. I am, like a distinguished clinician I know, somewhat of a pessimist regarding this disease. What I am arguing for is a more rational way of looking at epilepsy. I am arguing against the doctrine that it is a functional disease. I am arguing for the opinion that it is functioning of the nervous system pathologically produced. I am arguing for the view that epilepsy is a disease where the brain is unduly excitable, and on which some exciting agent in the system acts. I am arguing for the view that the exciting agent in the blood in a very large number of cases is uric acid. I am arguing for the view that the production of this agent can be limited to the normal amount by a regulated diet, and that any stores of it that may have been laid up in the system can be gotten rid of in the same way. I am arguing for the view that in this way we can do much to restore the brain to its lost balance, and that we can greatly reduce the amount of the bromides, thereby improving the patient's prospects.

It is now settled beyond dispute, or even cavil, by the work of distinguished physiological chemists, and none merits higher praise than Sir William Roberts, that uric acid in the human body circulates in the form of quadriurates. A change takes place in these, in contact with

sodium compounds, and the result is the formation of biurates, which are but little soluble. These biurates are precipitated in the tissues of the body in the form of needle or star-like crystals, and capable of exciting much irritation. Parts of the body that have at any time been injured and the circulation consequently deranged, are more liable to be invaded by these crystals than parts where the circulation is healthy and normal. There is no reason whatever why these crystals may not be deposited in the brain or its coverings, and give rise to the most intense form of irritation. This may indeed be the unfortunate condition of some persons. They suffer from attacks, which so far as their brains are concerned, are similar in every detail of pathology to the attacks that others have in their joints. There are two ways in which this diathesis may then act upon the brain: First, by an excess of uric acid in the blood; and second, by the deposition in the brain or meninges, of these biurate crystals. Both of these conditions must be closely studied and carefully guarded against. Many persons of small appetite go to bed fasting. The effects of this are to lower the alkalinity of the blood. To such persons, if epileptic, I give, along with their retiring dose of the bromide, a light amount of nutrition and a dose of citrate of potash. By this simple means due alkalinity of the blood is maintained, assimilation and nutrition improved and the probability of avoiding fits by avoiding storage, especially at night, is greatly enhanced. In his Croonian Lectures, just recently delivered, Sir William Roberts remarks, "that the excretion of uric acid is diminished by lessening the albuminoid ingredients of the food, and that it is heightened by increasing these ingredients." He further remarks, "that persons who are subject to uric acid gravel and who are also troubled with a large appetite, should seek to lessen their cravings and to lessen the intake of nitrogenous material by the free use of farinaceous articles of food, with salads, fruit and garden vegetables, all of which are comparatively poor in albuminoid con-

stituents." It is not going too far to ask you to give careful thought to the expressed opinions of so thoroughly scientific an investigator as Sir William Roberts. These remarks of Roberts are of special value on the subject of gout and gravel. But since, as has been shown by many careful observations, there is a close relationship between gout and rheumatism on one hand, and epilepsy, migraine and mental depression on the other, these views become still more important.

Wm. Osler, in his work on "The Practice of Medicine," states, under the heading of "The Dietetic Treatment of Epilepsy" that "the old authors laid great stress upon regimen in epilepsy. The important point is to give the patient a light diet at fixed hours, and on no account to permit overloading of the stomach. Meat should not be given more than once a day. There are cases in which animal food seems injurious. A strictly vegetable diet has been warmly recommended. In general, the patient should not go to sleep until the completion of gastric digestion."

The above is the experience of a physician of unusual experience. He advances no arguments, however, for his recommendations, but from what I have said of the ebb and flow of the blood alkalinity under varying conditions of diet, it will be seen that what Osler here says, from clinical experience, rests on a sound scientific basis. Overloading the stomach, I have shown, produces a strong alkaline tide and often causes fits. With regard to the taking of food a short time before retiring, I have just expressed my own opinion, that where there is a tendency for the urine to be highly acid in the morning, I advise a light, digestible meal, with some alkaline water, as citrate of potash in solution, to avoid the storage of uric acid in the system.

The larger the proportion of uric acid present, the greater the danger. Our power of controlling this factor lies almost entirely in regulating the diet. Although a certain amount of albuminoids are absolutely necessary

to health, yet the object to be aimed at is that they should be limited to the minimum consistent with health. The greater the amount of albuminoids taken into the system the greater the amount of uric acid that shall be formed. But in addition to this, as I have shown, the blood is less alkaline, its solvent power on urates reduced, and the storage of the acid in the system promoted. In milk we have about four per cent. albuminoid matter, in bread eight per cent., in fruits one per cent., in green vegetables and salad one and one-half per cent., potatoes, six per cent., green peas six per cent. Against these place meat and fowl twenty per cent., game twenty-two per cent., fish with red flesh eighteen per cent., cheese thirty per cent., eggs, thirteen per cent. The free use, then, of bread, vegetables, salads, fruits, greens and milk satisfies the appetite and limits the intake of the more albuminoid foods. In all cases of epilepsy where there is the uric acid diathesis present, the patient ought to be instructed to use succulent fruits and vegetables freely, as they yield a large quantity of water and promote the activity of the excretory functions. All foods containing much sodium in any form, should be reduced as far as possible. With regard to mineral waters, only those which contain no soda should find a place on the list for such patients. It will readily appear from the above how the diet can be regulated so as to minimize the risks both of plus formation and retention of uric acid and the biurates.

Though I am dealing with this question as the physician, yet I have already said that there is a surgical side to some cases of epilepsy. Under the prolonged administration of mercury, cases with a syphilitic history are often greatly benefited. It may be that in such cases there is a thickened condition of the meninges. I have known, under my own observation, cases where the fits, after the removal of a piece of depressed bone that had been irritating the cortex for years, disappeared and

so far have not returned. There are cases of tumor that are, no doubt, proper subjects for the surgeon's care, and in which the trephining of the skull, even though the tumor cannot be removed, seems to do some good, probably by relieving that portion of the brain in the vicinity of the tumor of some of the pressure to which it was subjected. There are also some cases due to a thickened condition of the meninges from former attacks of inflammation. These cases may be helped, at least for a time, by the operation of trephining and slitting open the dura mater. What proportion of all epileptics may belong to such groups time alone can tell. Such cases, however, can have no special bearing upon those who, after an indefinite number of years, show no symptoms of the advent of conditions that could justify surgical intervention. We shall always have with us cases for the physician alone.

In addition to the regulation of the diet of such patients as to quality, great regularity is required as to the times of taking food and the quantity taken. After food has been taken, absorbed and assimilated, the urine rises in acidity and the blood falls in alkalinity. If these patients go too long without food and then eat too heavily, there is produced, in succession to an acid one, a strong "alkaline tide," a large amount of the uric acid in the system is washed out into the blood and fits induced. These cases have much of the waviness of gout and gravel, and we all know with what suddenness attacks of these latter come on. The aim of the physician ought to be to maintain the processes of digestion and assimilation in the maximum degree of regularity. Many an attack of epilepsy is caused during the night by an overloaded stomach on going to bed. On the other hand, to go to bed fasting is equally bad and the blood in the morning will be of low alkalinity. Following this there will, after a good breakfast, be an alkaline reaction and often fits. In studying epilepsy, the curves of the fits will be found to follow with much regularity the curves of blood alkalinity, corresponding with full meals.

"A most extravagant practice sprang up a few years ago with respect to the diet of epileptics. Someone proposed to feed epileptics on farinaceous and vegetable food, animal food being thought to be an excitant and favorable to convulsions. Many a case has come to me aggravated after a trial of this diet and careless bromide treatment, and great improvement followed the resumption of a moderate normal diet, with systematic medication."

The above are the words of E. C. Seguin, a neurologist for whom I have the greatest regard. I ask you to note carefully that the dietary management of epileptics, as I am advocating it, has never been properly carried out. In the second place, the bromides have been given in an irregular and careless manner. In the third place, I do not exclude animal nutrition from the diet of such patients. They are allowed milk, some oysters, and white-fleshed fish. In the fourth place, all ales, beers, wines, etc., are rigidly excluded, as tending to cause the uric acidæmia condition. In the fifth place, there is a long way between a farinaceous and vegetable diet, such as I advocate, and the excessive animal diet to which many epileptics are so strongly addicted and irregularly too. In the sixth place, I have over and again tested the urine of patients on a milk and meat diet, greatly to the advantage of the former. In the seventh place, I strongly advocate the judicious and continued use of the bromides. The occasional use of the bromides is worse than not to use them at all. Finally, we must not forget the words of W. H. Broadbent in his Croonian Lectures, that cases of epilepsy with high tension pulse are specially amenable to treatment by a milk diet. Uric acid in the blood in excess causes such tension in the pulse. I would add that it is greatly aided by the use of aconitine in such cases.

If it is true, as I think it is, that idiopathic epilepsy is related to migraine, some vertigo attacks, hysteria in some cases, mental depression and melancholia, and

these again have a close relationship to gout, we readily see how it is that epilepsy is a disease of diet origin, in many instances, if not in all. We know that errors in diet and drink, continued from generation to generation, evolve the gouty diathesis that is so hard to get removed again. My own work and the work of others has shown that epilepsy is intimately connected or associated with an accumulation in the system of uric acid, and that this agent in the blood, in excess, is a convulsant. From these facts, could any more rational conclusion be drawn than that in the treatment of epilepsy we should travel along the path that the lamp of scientific research is lighting for us? Whether all cases of so-called idiopathic epilepsy are due to the presence of uric acid in the blood as I have already said I am not prepared to say, but that most are related to an excess of it in the blood I do assert. This much said, I further assert that all my patients have been benefited by a properly regulated dietary, and in some instances, the benefit has been very great.

In another article on this subject I have suggested that the excessive use of nitrogenous and acid drinks may be capable of generating an unstable condition of the cerebral gray matter. One thing, however, remains clear, and that is the advice to reduce to a minimum all forms of nitrogenous foods and acid drinks. In this way smaller quantities of the bromides suffice, and this has also proved another advantage, as we all admit that the prolonged use of the bromides is not devoid of evil.

The question then naturally arises, how long must this dietary routine be kept up? My answer to this is that a long time is needed in every case, and possibly it must be permanently maintained in some. A constant bromide treatment, continued for many years, we know to have been absolutely necessary in our past experience; and ought to be kept up in reduced quantities for years after the fits cease. So it is with the restriction

in diet and drinks. The disease is present; and the choice is between the inconvenience of the oft-recurring fits, or the restrictions of treatment, both dietary and medicinal. If anyone expects great results in a few months, or a year, he shall be doomed to disappointment. The treatment of epilepsy is measured, not by years, but by decades.

While I give my adherence so strongly to the dietary management of true epileptics, you must not entertain the opinion that I undervalue the bromides. Far from it. The bromides have done much good, and would have done much more, if they had always been administered properly. But the practice of giving them for a time, and then giving them up again, only to return to them again, is destined to end in failure. I wish to put myself on record as making a strong plea for the systematic and thorough administration of the bromides. Permit me to quote again from Dr. E. C. Seguin: "The problem you have to bear in mind is to give just as little bromide as shall secure the patient against attacks; a distinct therapeutic bromism is to be produced and kept up, and pathological bromism avoided. Under a dietary, carefully regulated, this can be done with much less of the drug."

It is in the attacks of *petit mal* that we are so often disappointed with bromides and chloral. In a good number of cases of *petit mal* (not included in the list formerly given) I have found very great benefit from a diet of milk and vegetables, rigidly adhered to for a lengthy period. With this must of course be combined proper hygiene, and regulated brain work. From the judicious use of strychnine, atropine, ergot and digitalis we often obtain good results. A mixture that I have often used, with much benefit, contains pot. bromide, chloral, belladonna, strychnine, ergot, digitalis, and arsenic. Allan McLean Hamilton suggested the above, except the chloral, which I have added. The advantages of some chloral, along with the bromide,

are that troublesome acne is greatly reduced, the amount of bromide required lessened, and the mental condition of the patient improved, and particulary is this so if there is present much mental dullness. The use of the strychnine and belladonna should be ordered to meet the eye symptoms so often found present in these. If there is faulty power of accommodation with weakness of the internal recti, strychnine is indicated. In cases where the external recti are weak, or the internal recti and accommodation overly active, the indications are for the administration of belladonna, or its alkaloid, atropia. In *petit mal* I attach much value to a course of chloral.

Permit me here to call your attention to a point that I have frequently noticed in connection with attacks of epilepsy. For some time, often several days, prior to an attack, the epileptic feels unusually well and buoyant. But just before the attack and subsequent to this period of *bien etre* he feels dull, restless and irritable. He is often troubled with headache, has a scanty flow of urine, and is easily provoked into a quarrel. The pulse tension is high, whereas in the period of well-being it was soft. The patient is morose and seeks seclusion. In these cases, it is often possible to avert the threatened storm by the judicious use of acids. None answers the purpose better than the free exhibition of lemonade. Here we have a scientific explanation for the popular custom of drinking the juice of the lemon to avert, and relieve, headache, with arterial tension, and throbbing temples. According to Haig, Von Jaksch, Garrod, Duckworth and myself, the drinking of an acid lowers the alkalinity of the blood, and wards off an attack. To a minor degree spirits ammonia acts like an acid, and affords some relief.

I have already said so much upon the subject of dietary, and its relation to uric acid, that I cannot go into any details on the routine drug treatment of epilepsy. Beyond what I have just stated on the bromides,

I shall ask you, on occasion, to try the hypodermic administration of morphia. The value of a hypodermic injection of morphia in puerperal eclampsia is now settled beyond dispute. I am not aware that it has been advocated in cases of epilepsy, where one fit follows another. This status epilepticus is readily controlled by the hypodermic injection of morphia. Along with the morphia I would recommend an aperient of calomel and croton oil. In this case, as in that of puerperal convulsions, the injections have to be repeated sometimes, but no harm can come from so doing. Some seven years ago, in an article on the "Management of Peurperal Convulsions," I mentioned the facts that the morphia rapidly reduced the high arterial tension of these cases, and caused diuresis and diaphoresis. Later investigations have shown that this plan removes the uric acid from the blood, and thus reduces arterial tension.

In one case of the status epilepticus that I had under my observation for an entire night, an excellent opportunity was afforded me to watch the tense condition of the pulse, and the action of morphia upon it. After a dozen convulsions had taken place in close succession, I gave one-third grain of morphia hypodermically. Subsequently to this there was only one slight seizure. The pulse became slow, full and soft. There was a copious flow of urine, the skin became moist, and the patient went to sleep.

In conclusion, gentlemen, permit me to say that it is with unfeigned pleasure I have brought before you the few thoughts contained in this paper. You are the honored members of the association in my own old county. Should it ever be my good fortune, in the ardent pursuit of scientific research in medicine, to do any really useful, or original work, there is no place else where I would more cheerfully give it to the world than at the Huron Medical Association, the county of the home and the memories of my boyhood.

Remarks on the Presentation of Diplomas to the Graduating Class of Barnes Medical College.

By C. H. Hughes, M. D., St. Louis,

President of Faculty, and Professor of Neurology, Psychiatry and Electrotherapy.

Gentlemen of the Graduating Class:—The battle is over and the victory is won. We now proceed to call the roll of honor. Not all who entered the lists are on the roll. Some have failed to pass the ordeal and have fallen in the field of endeavor. To the unfortunates we say, your failure to pass the ordeal is not the worst misfortune that might have befallen you. You might have been lucky enough to have just gotten through and gone out into life's great conflict illy prepared to properly fight the battle of life before you, for this is but the first skirmish—the real, great conflict is yet to come. While we applaud the victor and give him reward of merit, we sympathize with you, and advise you to cultivate your courage and perseverance, remembering the old injunction to try again. If at first you don't succeed, try, *try* again. Let your courage now appear, for if you will persevere, you will conquer, never fear. Try, *try* again.

I congratulate you that you have so satisfactorily concluded your studies, and in behalf of the Board of Trustees and Faculty, we bestow upon you to-night these credentials attesting our joint appreciation of your industry, your qualifications and your moral deportment during the past three years.

You have successfully fought the good fight and finished your course, that is, your preparatory course, for this is but the commencement of your careers. You now begin your life's work, commissioned to cure disease, and

with the beginning of this work, your real, practical, earnest study, commences. Henceforth, the industry and zeal you have thus far displayed, and of which these are your testimonials, are to continue; that is, if you properly appreciate the obligation you now assume in becoming physicians. Your efforts to accumulate knowledge to enable you to grapple with disease should never cease while you live.

We welcome you to the ranks of the toilers in a great and noble calling, at a period in its history when its record of work done has given it a glorious name among men and made its votaries illustrious among the good and great in the world's history. While the work already accomplished has given our profession a place high in the esteem of the world's great philanthropic heart and discerning mind, there is work yet awaiting your personal performance that may make the names of some of you illustrious on the pages of its bright and brightening history.

Three faithful years of earnest work have revealed to you something of the wondrous mechanism of man, the machinery you are commissioned to manage for the physical and mental well-being of your patients. Its wonderful framework, the skeleton, and superimposed brain and nerves, vascular, lymphatic and glandular systems and vital cavities have been brought to your view. You have been taught how beautiful, how wonderful, how complicate is man's organism. You began to realize how the Omnipotent Designer, binding nature fast in the fate of organic environment, has left free the human will, yet not wholly free, for the sphere of man's activities is limited save in the projection of his reflections, and yet even here a good or bad cerebral organism largely predestines the range and quality of his thoughts.

You are to aid in freeing man from the tyranny of weak or viciously constructed frames, and modify or avert the tendencies to, and free them from, the actual oppressions of disease, to regulate and strengthen their organic

forces, and modify or temper their surroundings to their normal organic needs. This is hygiene—the prevention—and true therapy in the cure of disease actual, or disease impending, and health menaced by organic and extra-organic environment.

That dire Asiatic plague, which has on former visitations made devastating march through our land, failed last year to secure a fatal foothold on our soil. Our watchful profession was, by sight of science, enabled to discern its destroying intent afar off, and warily watching its devastation in the city of Hamburg and on its march across the sea, its deadly ravages were stayed.

Resistance to the next assault of the foe may fail, and our profession may be called upon, as in the past, to face and fight this deadly Eastern scourge, more fatal to life and national prosperity than the march of an invading army. Should it come, posts of honor may fall to your lot in the fight; some of you may be among "the yeomen of the guard."

We welcome you to a field which to the faithful and conscientious is the most profitable in rewards, though not in a pecuniary sense, of all the professions, save that of the Divine calling alone. Your vocation is to redeem, regenerate and disenthrall from disease that enslaves, oppresses and perverts both bodily and mental function. Misery alleviated, pains mitigated and diseases cured, are your conquests and rewards.

You wish to be skillful; you wish to be prosperous; you wish to be successful in securing the approbation of mankind, and in getting suitable pecuniary recompense for your services. To do this, the same diligence that has characterized your pupilage must continue. In all your gettings, strive to get understanding. "Wisdom is the principal thing."

You must be manly and upright. Be honest and true to conscience and to God. You cannot be otherwise and make of yourselves reputable physicians. You have won the laurel of our approbation, you are yet to achieve

public approval. Your reward of merit which you take with you to-night to your several places of practice, will prove of no value to you unless re-enforced by such deportment, professional and personal, as only befits the upright and true physician. You are to remember to conform strictly in your practice to the golden rule, which is the spirit of the Oath of Hippocrates and of our Code of Ethics. Place yourself always in your patient's place and consider in deciding what you would do for the patient, what you would have the patient do for you, under similar circumstances. You must, if needs be, burn the midnight oil, poring over your books, and subjecting yourselves to many vicissitudes and inconveniences.

On life's voyage before you are thorns to prick as well as flowers to inspire. Manfully take the thorn with the flower. They grow together on the same stem. Beautify and adorn your lives by a manly devotion to duty. Make of duty a pleasure, and your life will be reasonably happy despite its trials.

On your pathway you will find imperiled human lives. The happiness of others will be in your hands. Your only safeguard, therefore, will be the Divine injunction, "Whatsoever ye would that others should do unto you, do ye even so to them." To follow this out in your profession will enjoin upon you the practice of self-abnegation and make necessary, oft-repeated sacrifices of personal ease, comfort and convenience, for the welfare of others. You must aim to be just and fear not. Be true to yourself and these demands of your high calling, and you will surely be just to your patients.

As you have sown and shall continue to sow in fidelity to the high demands of duty to your exalted calling, so shall you reap in rich reward of approving consciences, mental peace, gratitude and pecuniary recompense. With what measure of duty, fidelity and zeal you shall meet in your practice, it shall be more than meted unto you again, in the appreciation of your patients, personal satisfaction and Divine approbation.

Seeds of diligent industry sown in searching out the causes and remedies of disease, and in the fruitful application of this knowledge in behalf of afflicted humanity, will bring into your life the ripened fruit of contentment. You will plant your own vine and fig tree of happiness, under whose delightful shades you shall rest in the evening of your days and lie down to pleasant dreams of duty well done.

We warn you against the shoals, quicksands and pitfalls of your professional career. The first pitfall is the practice of medicine solely for a mercenary purpose. It is something higher and nobler than a mere money-making business. It is a profession in which the highest welfare of humanity, promoted through your efforts, is to be your special reward. Selfishness may lure you from the necessary sacrifices that will be essential to the proper performance of your duties as physicians. You must consider your patient first and yourselves afterwards. Selfishness should have no place in the physician's vocabulary of conduct. You cannot be extremely mercenary and selfish and succeed as high-minded and worthy physicians.

Though you have labored faithfully and diligently, and well earned the reward bestowed upon you to-night, you cannot relax and become indolent in after life and discharge your duties to yourself, to the community or to your Creator.

What I have said against being mercenary does not in any manner militate against your being diligent in business, strict in your accounts, and particular about presenting them and carefully collecting them after the manner of other business men. Do the very best work you can and study each year to do it better still, and when you shall have done it, put upon it a just estimate and demand your reward.

The physician, of all public servants, is worthy of his hire. If he is faithful, as he ought to be and as his high calling demands, he is worthy of far greater rewards than he usually receives. Do not be afraid of being called a high-priced doctor, but have a wholesome fear

and labor diligently to avoid it, of being considered in the community where you locate a doctor of mediocrity, for M. D. often signifies this. Keep abreast of the times. Keep in the vanguard of your profession. Study to advance its interests and advance each day in the knowledge of the nature and cure of disease. Cultivate the amenities of life. Be suave, amiable, natural and unfeignedly sympathetic in your manner and always neat in person. Neither act, nor speak, nor dress so that you might be considered insincere, peculiar or repulsive, to your patients. If you use tobacco, use it moderately, discreetly, and in the sick room, sparingly, if at all. Keep your office faithfully during office hours and it will keep you. Be punctual to your appointments. Take particular care of your own health by being temperate in all things and regular in your habits, thus setting such an example as a physician should set to those about him. Aim to be scholarly, as well as scientific. Aim to be agreeable, as well as useful, in your intercourse with people. Read some of the best literature of the day. Be able to talk something else than shop and something else than disease to your patients. Do not run your business into the ground like a well-borer or an undertaker. Do not go into partnership with either a druggist, a natural mineral water man, an undertaker or a tombstone dealer. It would not look well to do so.

You will be estimated by your skill in curing disease. You will be judged by the fruits of your work, but you will also be estimated by the common standards by which other cultivated men are judged. And, above all things, avoid that kind of training of yourself which is likely to result in making you one-sided in your judgments. Be broad and liberal in your views of affairs. When you speak in public, speak reservedly, but speak with force.

You have nothing to do with the politics or religion of your patients. This field belongs to others, and as a wise physician, you will not run counter to the prejudices and predilections of your patients, except in so far as

these prejudices or predilections may tend to impair their health or retard their recovery from existing disease. But you should not ignore either your political or your religious duties as you may understand them.

No rank, no nationality, naught but duty should influence your conduct in the sick room. The poor are your best patients. They will trust you as you will have to trust them. They will give you experience in return for your skill, and God who has said, "For inasmuch as ye have done it unto the least of these," will be your final paymaster. You can trust Him with confidence to repay in peace of soul and the final plaudit, "Well done!"

The sum of your obligations and your duties is embodied in that oath of the Father of Medicine, who, though he lived and died before the advent of Christianity, practiced his profession in the spirit of the Christian charity of our day; and here I give you the substance of the Oath of Hippocrates, that you may see that medicine of to-day comes in possession by heredity, of the practice of justice, truth, honesty and charity towards mankind in its efforts to heal disease.

The Hippocratic Oath.

I swear by Apollo, the physician, and Esculapius, and Health and Allheal, and all the gods and goddesses, that, according to my ability and judgment, I will keep this Oath and this stipulation—to reckon him who taught me this Art equally dear to me as my parents, to share my substance with him and relieve his necessities, if required; to look upon his offspring on the same footing as my own brothers, and to teach them this Art if they shall wish to learn it, without fee or stipulation, and that by precept, lecture and every other mode of instruction, I will impart a knowledge of the Art to my own sons, and those of my teachers and disciples bound by a stipulation and oath according to the law of medicine. I will follow that system of regimen which, according to my

ability and judgment, I consider for the benefit of my patients, and abstain from whatever is deleterious and mischievous. I will give no deadly medicine to anyone if asked, nor suggest any such counsel. With purity and with holiness I will pass my life and practice my Art. Into whatever houses I enter, I will go into them for the benefit of the sick and will abstain from every voluntary act of mischief and corruption. Whatever, in connection with my professional practice or not in connection with it, I see or hear, in the life of men, which ought not to be spoken of abroad, I will not divulge, as reckoning that all such should be kept secret. While I continue to keep this Oath unviolated may it be granted to me to enjoy life and the practice of the Art, respected by all men, in all times; but should I trespass and violate this Oath, may the reverse be my lot.

Finally, since Solomon said wisdom is the principal thing, and that in all your gettings you should get understanding, I think he certainly must have meant to include getting married, for, with all his wisdom, he was a very much married man. I, therefore, think it wise for each of you who may be single to soon get a wife. Doubtless, some of you are thinking the same way at this very moment, eager to hasten to your beloved with your license to practice and to marry at the same time. A good wife will help you to get understanding of many things. A doctor without a wife is like a wild locomotive without an engineer, an engine without a governor, an establishment without a superintendent. Woman first came to man's side in a garden, with the highest recommendation. She is a good institution, not only in a garden among the roses, but to have about the house, notwithstanding the little trouble she once got Adam into, for which she has long ago been forgiven in consideration of the good she has since done him. It is not meet for him to be alone. Solomon valued women above rubies, and he knew enough of her to know what he was talking about. He said this

too before he made an impression on the Queen of Sheba. The poet who said,

> Oh, woman, in our hour of ease,
> Uncertain, coy, and hard to please, etc.,

did not know her, or he must have had an aggravated case of hysteria for a wife or sweetheart, and you have learned how to manage a case like that. Manage a wife right and you will have no trouble with her. Give her her own way in everything reasonable and she will prove to be the most amiable of creatures. I say this much on the subject from the stand-point of experience, and give you this advice on matrimony because I fear some of the many sweet girl graduates that in these merry months of Spring are blooming in the "rosebud garden of girls," will find out what nice fellows you are and lasso you with a matrimonial slip-knot even before the people find out what clever doctors you are.

I wish you to be prepared and not taken by surprise. I think it wise for you to get a wife, not only because the wisest of men approved of matrimony, but because I do not think you can help yourself. If you do not get a wife, a wife will get you. You are bound to capture or be captured.

And now we wish you health, happiness and prosperity, and in accordance with time-honored custom handed down to us from our most wise forefathers, that those who deserve well of the republic of science, of letters and of art, should be distinguished by peculiar and merited laurels, we bestow upon you these parchments, signed with our hands and witnessed with our seals. You are now *Alumni* of the Barnes Medical College, and may Heaven bless you and bestow upon you future merited rewards. May your lives be ever worthy the approbation of your *Alma Mater* and the smiles of an approving Providence.

Association of Hysteria with Organic Diseases of the Nervous System, Neuroses and Other Affections.*

SELECTED ARTICLE.

By H. Babinski, M. D., Paris,

Physician of the Hospitals of Paris; formerly Clinical Chief in the Department of La Salpêtrière.

THE domain of hysteria is extending day by day, and it is only necessary to scan the bulletins of the different medical societies and special monographs to be convinced of this fact. It is undoubtedly one of the most fashionable affections, and I am, for my part, convinced that there are few persons, indeed, who, under certain circumstances and under the influence of occasional causes, more or less active, do not succumb to its power. This proposition, I admit, is only applicable to hysteria minor. I believe, nevertheless, that hysteria major seldom develops except in subjects predisposed by birth or by neurotic antecedents, and is the appendage of a neuropathic aristocracy; the former, on the contrary, is within the reach of the whole world.

The field of this neurosis is still further enlarged by its association with maladies which are very unlike in character, and observations on this peculiarity have been

* This subject being new and of decided clinical importance, and requiring greater elaboration than it has yet received, we deem it proper to place the latest and only contribution thereon since our own article in the July Alienist of last year, before our readers.

already published, first in France, and later in other countries. I will mention particularly the works of M. Charcot,[1] the pioneer in this field; those of MM. Raymond,[2] Mathieu,[3] Aurelles de Palladines,[4] Seglas,[5] Babinski,[6] Souques,[7] Siredey,[8] Oppenheim,[9] Remak,[10] Bernhard,[11] Mendel,[12] Siemerling,[13] Buzzard[14] and Hughes.[15] The principal affections whose co-existence with hysteria has been noted are *sclérose en plaques*, tabes, syringomyelia Morvan's disease, Pott's disease, facial paralysis, primitive myopathy, neurasthenia, agoraphobia, onomatomania, chorea, and Basedow's disease.

Notwithstanding the large number of publications on this subject already mentioned in the foregoing bibliographical index, the latter is, to my mind, far from being complete. The works in question are, for the most part, very succinct, giving the history of one or more typical cases, and, if we relied exclusively on them to appreciate the importance of these morbid associations in pathology,

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1. (*a*) Leçons du Mardi (Association de l'hystérie avec la sclérose en plaques, le mal de Pott, le tabes, la myopathie, la neurasthénie). (*b*) Leçons recueillies par Guinon. Publications du Progrès Médical, 1892 (Maladie de Morvan et Hystérie).
2. Progrès Méd., No. 20, 1889 (Obs. de rhumatisme chronique associé à l'anesthésie hystérique).
3. Progrès Méd., No. 30, 1888 (Neurasthénie et hystérie combinées).
4. Thèse de Paris, 1889. Associations morbides en pathologie nerveuse (Observations de paralysie alcool. de chorée, de maladie de Basedow associées à l'hystérie).
5. Bulletins de la Soc. Méd. des Hôpitaux de Paris, 1889, No. du 12 Avril (Coexistence chez un malade de l'hystérie et d'une variété spéciale d'onomatomanie—echolatie mentale).
6. Gaz. hebd. de méd. et de chir., 1891, p. 368 (Agoraphobia et hystérie).
7. Thèse de Paris, 1891. Étude des syndromes hystériques simulateurs (Association de l'hystérie avec le tabes et la sclérose en plaques).
8. Bulletins de la Soc. Méd. des Hôpitaux de Paris, 1891, p. 537 (Tabes et hystérie).
9. Neurologisches Centralblatt, 1890, p. 488 (Sclérose en plaques, syringomyélie, paralysie faciale et hystérie).
10. *Id.*, 1890, p. 499 (Hystérie et sclérose en plaques).
11. *Id.* (Hystérie et sclérose en plaques).
12. *Id.* (Hystérie et paralysie pseudo-hypertrophique).
13. *Id.*, 1891, p. 22 (Ueber einen mit Geistesstorung complicirte Fall von schwer Hysteric welcher durch congenitale anomalien des central nervensystem ausgezeichnet war).
14. Brain, 1890, Spring Number (On the Simulation of Hysteria by Organic Disease of the Nervous System).
15. ALIENIST AND NEUROLOGIST, July, 1892, St. Louis (Note on the Hysterical Concomitants of Organic Nervous Disease).

we might suppose that cases of this character were relatively rare, which is not the fact. We have the right, however, to affirm, *a priori*, that any malady may be associated with hysteria, and nothing is, moreover, easier to conceive. If, for instance, a slight traumatism, or some other trifling cause, is capable of provoking hysterical manifestations in an individual who was perfectly healthy up to that time, it is quite natural that an organic or dynamic affection of the nervous system, a pre-existing pathological condition, of any kind, is capable of producing analogous effects, and, indeed, the association of hysteria with other diseases is, as I have observed myself, of very common occurrence.

This association may be unrecognized, either because the hysterical phenomena occupy first place in the symptomatic picture, and thus mask the concomitant affection, or because the latter, on the other hand, absorbs completely, to the detriment of the hysteria, the attention of the observer—a thing which happens frequently when we have simply the manifestations of hysteria minor. In neglecting thus the one or the other of the two factors present, we are liable to err in therapeusis and diagnosis.

It is because of this failure to recognize the hysterical element in these cases of hystero-organic association that some physicians have advanced the idea that psychotherapeusis may modify, to a considerable extent—nay, even cure—these organic affections.

It is, therefore, essential that we bear in mind the possibilities of these associations and try to discover, in cases of this kind, how much belongs to each of these two factors. It is, I admit, a task which may often be very difficult.

I believe, for the reasons which precede, that it will not be uninteresting if some new cases of this kind are placed on record, and, among the many that I have observed, I will select a few which I think particularly worthy of attention, and will present them briefly.

OBSERVATION I.

Organic Spasmodic Hemiplegia; Contracture, Exaggerated Tendon Reflex, Epileptoid Movements of the Foot. Hysterical Sensitivo-sensorial Hemianæsthesia. Rapid Disappearance of the Hemianæsthesia After the Use of Magnetism.

A woman, 45 years of age, addicted to alcoholics, subject to nightmare, and showing the signs of arterio-sclerosis, was admitted to *la Salpêtrière* in March, 1886, in the service of M. Charcot.

There was right hemiplegia consecutive to an apoplectic attack. The paralysis affected the upper and lower limbs and the inferior portion of the face. The hemiplegia had been present for six months when I examined the patient for the first time, and it presented at this time the classical characteristics of spasmodic hemiplegia due to organic disease of the brain.

The patient walked with difficulty, and, in moving, the upper extremity assumed a normal position; its different segments were notably flexed, the one on the other; the motor troubles were more pronounced here than in the lower extremity; the right commissure was slightly deviated inferiorly. There was decided resistance, due to muscular rigidity, which could be overcome, to a certain degree, by making passive movements of the foot, the leg, the thigh, the fingers, the hand, the forearm, or the arm; it was impossible to raise the arm to the horizontal position.

The tendon reflexes were very much exaggerated in the upper and lower extremities, and epileptoid movements of the foot were easily induced.

There existed, also, a strongly-marked sensitivo-sensorial hemianæsthesia on the right side; the whole right side was completely insensible to touch, pain and temperature; the sense of position was likewise absent.

Right amblyopia with contraction of the visual field, obtunded hearing, loss of sense of taste and of smell on the same side, were present.

Magnetism was applied to the upper extremity on the right side for about half an hour. On re-examination, made after this application, the sensitivo-sensorial hemianæsthesia, which, according to the statements made by

the patient, appeared at the beginning of the disease—that is to say, six months ago,—was found to have entirely disappeared; the general and special sensibility was equal on both sides, and seemed entirely normal. The motor symptoms were not influenced in any way.

The after-condition of this patient, who has been under observation for several months, has not suffered any change; the motor hemiplegia has not improved, and the anæsthesia has not returned.

The character of this hemiplegia would seem to show that the motor troubles are dependent upon an organic lesion of the brain, probably located in the internal capsule, which has given rise to a secondary degeneration of the pyramidal tracts. The sensitivo-sensorial hemianæsthesia might be due to a lesion of the posterior portion of the internal capsule, and it might be a question whether, in this particular case, the sensory troubles were not due primarily to a lesion of that portion of the brain.

The truth of this hypothesis might have been doubted, perhaps, but for the results obtained from the application of the magnetism.

In fact, organic hemianæsthesia is generally present in a slight degree, but exceptionally it may be more pronounced, and, if so, rarely save in the period which immediately follows the onset of the affection, and during a very limited[1] space of time.

We cannot, however, affirm that a hemianæsthesia,

1. In March, 1891, at the Maison Municipale de Santé, I saw a patient who had cerebral hemorrhage on the left side, which had, as the necropsy demonstrated, destroyed the posterior portion of the internal capsule and all that portion posterior to the centrum ovale corresponding to the occipital lobe.

During the first two days following the accident there was almost complete abolition of the general sensibility on the right side. One could prick or pinch the skin, make strong pressure upon the deep parts, apply to the skin very hot substances or a piece of ice without disturbing the patient in any way, or even calling his attention to these maneuvers; the same experiments made on the other side provoked an energetic reaction, which was made evident by cries, gesticulations, and defensive movements, although the patient was in a depressed and apathetic condition. The dejected condition of the patient rendered an examination of the special senses impracticable.

The following days, third, fourth, fifth (the patient died on the sixth day), although the depression of the patient increased, the anæsthesia became notably diminished, and excitations, which at first elicited no response, caused, as on the opposite side, but in a less degree, cries and movements, showing that they were now appreciated by the patient.

complete and of long duration, may not be dependent upon an organic affection of the brain; several observations will tend indeed, to demonstrate this to be a fact.[2] Nevertheless, in the case under consideration, the rapid disappearance of the anæsthesia, by means which I will not describe here, makes it evident to me that it was dependent upon the hysteria. It is, therefore, beyond question that there was here an association between the organic hemiplegia and the hysterical hemianæsthesia. Cases of this character cannot be rare.[3]

I have also observed a patient in whom permanent organic hemiplegia was associated with transitory hemihyperæsthesia, which disappeared in a short time after electro-therapeutic treatment. Without affirming the same, I am of the opinion that this hyperæsthesia was due to hysteria.

There is every reason to believe that, with a paralysis due to cerebral lesions, there may sometimes be associated motor troubles of a hysterical nature.

OBSERVATION II.

Diffuse Meningo-encephalitis; Peculiar Embarrassment of Speech, Tremor of the Upper Lip, Diminished Intelligence, Affected Pupils, Paraplegia; Hysterical Astasia; Rapid Disappearance of the Astasia following the use of the Induced Current.

A man aged 31 years, by occupation a stamper, was kindly sent to l'Hôtel-Dieu Annexe by M. Sireday.

Previous History.—The patient had contracted syphilis

2. See, in connection with this subject, a communication made by Ferrier to the London Medical Society: "Sur l'hémianesthésie cérébrale" (Semaine Médicale, 1887, p. 476).

3. M. Bernheim has published several analogous observations, which he interprets, however, in a different manner. This author correctly observes that "the functional trouble in diseases of the nervous centers is often greater than can be explained by the location and extent of the anatomical lesion;" and he adds, that "it is against this modified '*dynanisme*,' independent of any organic alteration, that psychotherapy may prove so effectual" (page 334). This latter proposition, to be exact, requires, to my mind, that we substitute for the word "*dynanisme*" the word hysteria. These two terms are in nowise synonymous; for if all hysterical affections are, in their origin at least, of a dynamic nature, the dynamic affections may always be differentiated from hysteria.

ten years ago. According to information furnished by the patient's mother, the present trouble began one year previous to admission, the first symptom being a progressive impairment of the intellect without delirious ideas, and a loss of muscular power, which compelled him to relinquish his usual avocation ten months ago.

Examination of the Patient, July 2, 1892.—The facies expressed the apathy into which the patient had fallen. He seemed totally indifferent to everything that was done or said concerning him. He answered questions only when they were very simple, being generally content to say "yes" or "no," and he seemed to be in constant doubt as to whether his answers were right or wrong. He seemed entirely incapable of reflection, remained silent when a question at all complicated was propounded, and did not appear to have any desire to comprehend it. The nurse said that the patient did not speak during the entire day, and would pass hours together, seated on a chair, without any occupation save, perhaps, reading; he would read the same page five or six times without appearing to understand what he read —in a word, there was very pronounced impairment of the intellect. The patient did not have any delirious or exalted ideas. There was a marked tremor of the upper lip and of the tongue. The speech was slow and difficult, presenting the typical characteristics belonging to diffuse meningo-encephalitis. The pupils were slow to contract when exposed to the light.

The motor functions of the upper limbs were almost normal; those of the lower limbs were not. When in bed the patient could move around easily and the muscular powers seemed to be intact, but when he stood up the legs made alternate movements of flexion and extension upon the thighs; the body was very unsteady, and moved forward, backward, to the right and to the left, and, whether the patient remained standing in one place or stepped forward, he lost his balance easily, and fell if some one did not come to his assistance. He had been in this condition for several months, incapable of walking alone. The tendon reflexes were normal. There was a diminution of sensibility of all kinds in the left lower extremity. The senses of taste and of smell were blunted. The visual field on the left side was slightly contracted. There were no trophic changes. The vesico-rectal functions were normal. I applied the induced cur-

rent (Charcot's apparatus) to the muscles of the lower limbs for about five minutes, and told the patient that I had cured his paralysis; then I ordered him to get up and walk. He obeyed me, and walked with ease a distance of eight metres; his gait was very different from what it had been before.

July 5th. The improvement has continued since July 2d. I again applied electricity to the lower limbs. After this *séance* the patient walked even better than before. Electrization of the labial and lingual muscles enabled the patient to speak more distinctly, but this improvement lasted only for a few minutes.

July 10th. The patient's condition is about the same. The sensitivo-sensorial anæsthesia has disappeared.

September. The impairment of the intellect and the difficulty of speech have increased since the month of July. The gait is not very steady, it is true, but the patient can walk about the room without help and without falling. The improvement obtained in July has continued up to this time.

In conclusion, we will group the symptoms as follows: (1) a marked impairment of the intellect, peculiar embarrassment of the speech, tremor of the upper lip, and some pupillary derangement; (2) locomotor troubles entirely analogous to those observed in astasia-abasia.

From a diagnostic point of view, three hypotheses offer:—

(*a*) We may admit, first, the existence of a meningo-encephalitis characterized by the symptoms of the first group, and refer the dependence of the locomotor symptoms to the organic lesion of the brain. This hypothesis, entirely tenable until the patient had received treatment, becomes at once inadmissible, and the rapid, almost instantaneous, transformation brought about by treatment, in which suggestion may claim the most, if not the entire, credit, allows us to affirm, as I believe, that the astasia, although not accompanied by hysterical symptoms, was here, as usual, due to hysteria.

(*b*) Secondly, remembering that hysteria is a great simulator, it would be legitmate to ask if these phenomena

of the first group could not also be attributed to this neurosis? Although personally I have never seen in hysteria these special disturbances of articulation, which appear to belong properly to meningo-encephalitis, I am ready to admit it as possible. Nevertheless, I reject the hypothesis in question, because there exists, also, in the case under consideration, diminished intelligence, tremor of the upper lip, and pupillary disturbances, which are foreign to the symptomatology of hysteria.

(*c*) Nothing now remains except to admit that the case is one of association of meningo-encephalitis with hysterical astasia, and this hypothesis has been verified by the treatment. It should be remarked that the feebleness of the lower limbs has not entirely disappeared and that the gait has not become entirely normal. I am willing to admit, therefore, that the paresis persisting at the present time may be altogether dependent upon cerebral lesions; yet it cannot be denied that upon this organic condition there was engrafted a purely dynamic affection—hysterical astasia—and that it was principally the latter factor that made it impossible for the patient to stand up or to walk about when he was first admitted to the hospital.

OBSERVATION III.

Facial Paralysis Consecutive to Fracture of the Petrous Portion of the Temporal Bone. Hysteria: Locomotor Troubles, Staggering Gait, Vertigo. Disappearance of the Hysterical Manifestations Under the Influence of Suggestion.

The patient was a female, 42 years of age; by profession, a cook.

Previous History.—At the age of 22 years, after a fright, she had a series of hysterical convulsive attacks which were accompanied by delirium. A condition characterized by choreic movements (the special variety of which could not be ascertained on account of the meagre information given of them) followed, and was present for

an entire year; this latter condition was interrupted, now and then, by hysterical attacks.

A year later, the chorea abating, the gait became staggering, and was finally of the character to be described later on.

After several months had passed these phenomena disappeared, and from this time until the accident her health was very good; the patient had, however, on several occasions, a temporary return of the locomotor troubles, similar to those which she had at first, accompanied by vertigo and tinnitus aurium; she had, also, several attacks characterized principally by loss of consciousness.

Some weeks before the accident for which she had been admitted to the hospital, vertigo and difficulty of speech had returned, and were more pronounced than before; nevertheless, the patient was able to go out, attend to her work, and take long walks.

On April 4, 1892, while crossing a street, she was knocked down by a wagon; in falling her head struck against the pavement, and she lost consciousness. She was carried to l'Hôpital Lariboisière and placed under the care of M. Périer; she soon regained consciousness.

An abundant hemorrhage from the right ear and facial paralysis on the same side were found to be present. M. Gouguenheim examined the patient later, and made the following diagnosis: "Traumatic otitis, fracture of the postero-inferior portion of the auditory canal. Facial paralysis on the right side. Improvement in hearing after the removal of the clots."

A few days after the accident the patient got out of bed and tried to walk, but she could not take many steps without losing her balance; the locomotor troubles, instead of improving, in the course of time, became worse. M. Périer then transferred the patient to my care.

Condition of the Patient April 15, 1892.—Paresis of the face on the right side, affecting the superior and inferior portions, but principally the inferior portion; the right commissure is deviated below. The faradic contractility of all the muscles, but particularly of the zygomatici, is much more feeble than on the other side; the application of the voltaic current is attended with less decided response on the affected side than on the unaffected.

Right hemianæsthesia; sensibility to touch and pain is diminished over the whole right side. Contraction of the visual field in the right eye, with obtunded hearing on the same side. The patient has, now and then, some tinnitus aurium, which is, it is true, less marked and of shorter duration. Tendon reflexes are normal.

When the patient is lying down she has no veritigo; the motor functions of the limbs and of the various parts of the body—the right side of the face being excepted—are nearly normal; the right hand, however, seems a little weaker than the left.

When the patient is made to sit down she does not maintain her equilibrium—she swings to the left or the right, but more often toward the right side; she has some accompanying vertigo.

When the patient stands up the oscillation of the body increases. She can, however, stand on one foot, with great effort, for several seconds, and more easily on the left than on the right one.

The gait is unsteady, staggering, the legs interfering with each other; the patient steps off most often toward the right, but sometimes also toward the left and backward. It is difficult for her to walk a dozen metres, and she has to be watched when she is on her feet; for, if she is not assisted now and then, she is apt to fall.

On April 20, 1892, about 4 P. M., M. Nageotte, hospital-interne, hypnotized the patient; the latter found it impossible to open her eyes, although she tried hard to do so. He suggested to her that she could now walk all right; the immediate result was not satisfactory, but in the evening the patient arose and showed that she could walk well; by the next morning the locomotor troubles had entirely disappeared, the gait was now normal. The recovery has remained complete since that time. The facial paralysis has not suffered any change; several attempts were made to influence the condition of the same, but no result was obtained.

On May 10, 1892, the staggering gait and the locomotor troubles were reproduced in the patient, and caused again to disappear, by means of suggestion.

The patient was discharged in July. The facial paralysis was not benefited in the least by electrical treatment.

Here was a case of partial paralysis of the facial

nerve consecutive to a fracture of the petrous portion of the temporal bone; this diagnosis cannot be disputed, it was self-evident. The latter cannot be said of the vertigo, the locomotor troubles, and the staggering gait, which, at least in the beginning, might have been explained in two ways.

The organic auricular affection could, as we know, give rise to phenomena like those in the case under consideration. Was this an abortive, imperfect form of Menière's disease, caused by the fracture of the petrous portion of the temporal bone? This hypothesis was a tenable one.

But, on the other hand, the patient had had, before the time of the accident, the same symptoms; moreover, she was manifestly hysterical. Now, it is possible to have symptoms which are more or less analogous to those which characterize Menière's disease[1] in hysteria.

The results obtained by suggestion allow us to settle the point at issue, and to affirm that all these phenomena were dependent upon the hysteria, and that there was, consequently, in this case, an association between organic facial paralysis consecutive to fracture of the petrous portion of the temporal bone and locomotor troubles of hysterical origin.

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1 Gilles de la Tourette (Progrès Méd., 1891, p. 31) note "sur quelques paroxysmes hystérique peu connus; attaques à forme de neuralgie faciale, de vertige de Menière."

THE PAN-AMERICAN MEDICAL CONGRESS.

[SPANISH ANNOUNCEMENT.]

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Todos nuestros esfuerzos tienden á que las sesiones de esta Seccion sean, tanto cientifica como socialmente, provechosas y gratas, contando para ello, no solo con memorias de mucho mérito, prometidas por sabios eminentes en Neurologia y Psiquiatria, sino con que los médicos de las Américas del Norte y del Sur respondan á nuestra cordial invitacion para que concurran á las conferencias de esta importante Seccion de Enfermedades Mentales y Nerviosas, y cooperen valiosamente á que sus resultados corran parejas con los de las demás Secciones, á la par que sean fructiferos para la Psiquiatria y Neurologia Pan-Americanas.

Juntémonos pues, de todas partes de América, para que digna sea de no olvidarse nuestra convocacion por sus resultados científicos y sociales.

Fraternalmente,

C. H. HUGHES,

Presidente Ejecutivo de la Seccion de Enfermedades Mentales y Nerviosas del Congreso Médico Pan-Americano.

M. G. ECHEVERRIA,

Secretario para la Lengua Española.

Suplicamos á la prensa médica Hispano-Americana que publiquen este manifiesto.

St. Louis, Diciembre 1, 1892.

SELECTIONS.

CLINICAL NEUROLOGY.

A CASE OF RETROACTIVE (RETRO-ANTEROGRADE) AMNESIA is reported by Dr. R. Baroncini, in the *Rivista Sperimentale di Freniatria e Medicina Legale*, 1892, fasc. III., IV. It is of special interest to our readers with reference to Dr. J. T. Eskridge's article in the July number of the ALIENIST AND NEUROLOGIST, which is mentioned by Dr. Baroncini, and may be given here in outline:

The patient, Guglielmo P., 22 years old, had been serving in the army as a foot-soldier since December, 1891. He never had been the object of any serious complaint and was well liked by his comrades and officers. On the 15th of February, 1892, he left the hospital after two weeks' treatment for a urethritis. He was perfectly quiet on that day. At bed-time he told his comrades that he did not feel well and sat down on his bedstead, supporting his head with his hands. In this position he remained silent and immobile for a long time, like in deep thought. When at last his comrades tried to rouse him by shaking him and by raising his head, he suddenly jumped up in a grave attack of mania, with agitation and impulsive movements, shouting at the top of his voice, "Murderers! murderers! Out of my house, you cowards! Who are you? What do you want? Murderers! murderers!" When his comrades tried to quiet him, he began to beat and kick and bite, always repeating his insane cries. He then was transported to the Civil Hospital and strapped down. For two days he continued to rave, a victim to continuous delirium with sensory phenomena, hallucinations, chaotic vociferation and violent movements. He did not sleep, would spit into everybody's face, did not take any food and continued to scream. After three days this attack ceased suddenly, and the patient was found quite calm, but very much confused. He did not recognize his comrades nor his army surgeon. To questions he either did not answer at all or in a short and abrupt way, as if he did not want to be bothered. From this time on he was quiet, eating and sleeping well and attending to all

his wants. His main occupation was to walk up and down on the hospital grounds, and to talk about going home to see his wife and children. In this manner he passed a fortnight, always unable to recognize even his intimate friends. About the beginning of March a relapse appeared imminent and he was sent to the Asylum March 6th. He then became perfectly quiet again, continued to talk about his impending departure for home and behaved as if he had been used to the place for a long time. In his walks he often would stand still as if listening to some voice and then talk to himself under gesticulations. His answers to questions were, as a rule, incoherent, but sometimes he would answer correctly and in this way the address of his wife was elicited from him. At this period he appeared like a dreaming man, his language and actions having the characteristics of automatism.

On the 10th of March he suddenly appeared to awake like from a long sleep, looked at the things and persons surrounding him and asked the nurse who all those people were, where he was and how he had come there? When he appreciated that he was in an asylum he broke into tears. He then asked for the circumstances of his transmission to that place and listened to the narrative with increasing astonishment. He did not remember to have been in the Civil Hospital, he did not know the name of the city and had not the slightest recollection of having been a soldier or of any of the incidents of his military life. By repeated examinations it was found that he had lost all remembrance of the events of *several months* preceding the date of his attack. He did not remember when he left his home and his family, although he remembered quite well that the thought of the necessity of soon leaving his family for some time had occupied his mind and saddened him. Then there is a sudden gap in his memory. The exact day beyond which he remembered nothing could not be made out, there being no single event of special importance connected with it. All facts pointed to the beginning of November, which makes a *retroactive amnesia of three months and a half.* There is a complete blank in his memmory from the beginning of November to the day of his awaking, March 10th, although this period includes events of unusual importance that must have made a deep impression upon his mind, such as the parting with his wife and child, a long journey, the beginning of his life as a soldier, etc. When a photograph of his person was

shown him, that had been made a few days before the onset of his attack, he smiled at seeing himself dressed as a soldier, but did not understand how that picture could possibly have been taken. He had not the slightest remembrance of the prominent buildings and localities of the city. His old comrades were perfect strangers to him, and the quarters where he passed the days of his military life were new surroundings to him.

The patient remained under observation for a month and a half after his recovery. He was perfectly calm and well-behaved, sociable and intelligent. He left the Asylum without any improvement of the condition of his memory, and there was none up to the date of the writing of Dr. Baroncini's report, and probably never will be any, since such amnesia seems to be of a *destructive character*, dependent upon an irreparable alteration of the nervous elements constituting the organ of memory.

The sudden onset of the mental alienation in this case, the grave attack of mania of a psycho-sensorial form, its sudden cessation, the following phase having all the characteristics of a cerebral automatism, the complete amnesia of the attack itself, and the retrograde amnesia made Dr. Baroncini believe that the case was one of an *epileptoid character*. This view was supported by the examination of the patient's body, which revealed several physical signs of high diagnostic importance.

The patient measures 1.73 metres and has a symmetrical skull of 540 mm. circumference, an antero-posterior diameter of 190 mm. and a transverse diameter of 147 mm. He is well built, of delicate appearance, with feminine features; the skin thin, the face almost beardless, the lower jaw pointed, the mouth very small. Although 22 years old he does not appear older than 18. These characteristics, which would attract attention by themselves, appear of so much more importance as they are found in the majority of epileptics, impressing upon them the stigma of degeneration. The patient's grandfather had been a restless man of strange habits; his father had been of a neurotic predisposition and subject to epileptic fits. A female cousin, by his mother's side, has been in an asylum for some time, and her sons are all more or less affected mentally, one of them an imbecile. His two elder brothers are almost beardless, like himself; one of them has been a somnambule since early childhood. Another brother of his has been an epileptic.

He was killed in a quarrel at the age of twenty-five. Up to the age of twelve years the patient has been suffering from enuresis nocturna. Besides, he has had attacks of malarial fever. He has always been of a very irritable and nervous character, subject to sudden attacks of rage, although able to hide these characteristics pretty well under the appearance of feminine meekness. For the last three or four years he has had occasional attacks of vertigo. In July, 1891, he had a grave epileptic attack, apparently the first one. A few days before leaving for the army he had a febrile attack, lasting one day and followed by a spell of delirium, a fact which he does not remember himself. The idea of having to leave his family preoccupied his mind for a long time, but he stood the departure well, and seemed to get easily used to the new surroundings, making friends amongst his comrades and superiors. Soon, however, he again fell a victim to fits of passion and excitement, showing what Tonnini calls *functional asymmetry*, a prominent characteristic of all forms of epilepsy.

From this previous history of the patient and from the character of the attack itself, Dr. Baroncini draws the conclusion that he had to deal with a case of *psychical*—or improperly so-called—*larvated epilepsy*. It closely resembles what Falret describes as *grand mal intellectuel*. A grave maniacal paroxysm, exploding with extreme violence, delirium with hallucinations and the idea of persecution, short duration of the attack and sudden cessation. This period corresponds to the clonic spasms of the classic form of epilepsy, and was followed by a period of epileptic automatism, extending over the unusually long interval of twenty-two days.

The most interesting feature of Dr. Baroncini's case is the appearance of retroactive amnesia after recovery from the attack, and especially the very long period which it comprises.

Cases of retroactive amnesia may be found in the writings of the early part of this century. Falret (in his article on "Amnesia" in *Dechambre's Dictionnaire des Sciences Médicales*, 1866), mentions cases reported by Pritchard (1824), Brodie (1825), Toulmouche (1843), Ecker (1848), Bruns, Henke, etc. Since then these observations have increased in number, and it would be worth while to collect all the facts and to analyze them. The oldest case in literature seems to be the one mentioned by

Charles Villiers in his letter to G. Cuvier (1802): A young woman that loved her husband affectionately had a protracted attack of syncope during her first labor; when she recovered, she knew nothing about her becoming confined, she did not remember to ever have been pregnant, and could scarcely be made to believe that she was married. She had completely lost the memory of everything that had passed during her married life, and never recovered the reminiscence of the period effaced from her mind. A similar case is reported by Capuron, in his work on obstetrics, and Dr. Bidon has reported to the Paris Academy of Medicine the case of a lady that lost the memory of a whole year during eclamptic convulsions complicating her first labor. At the same meeting of the Academy, Proust related a case where a lady lost all memory of her married life during her second labor, without any intervening eclamptic attacks.

Another cause that has produced the same effect is violent emotion in individuals that are predisposed to nervous troubles by heredity or otherwise. Charcot reports a case where a woman of 34 years, while doing her housework, was abruptly told by a stranger that her husband was dead. The news was false; but the woman fell into a hysterical crisis of three days' duration, and when she recovered she had completely lost all reminiscence of what had passed during the last six weeks.

In a case reported by Dr. Arnozan before the Medical Society of Bordeaux, a man of 65, on receiving some sad news, that he had expected for some time, was so gravely affected that he instantaneously lost remembrance of everything that had happened during the last three days.

Eskridge's cases are well known to the readers of the ALIENIST AND NEUROLOGIST.

Another group of cases comprises instances of retrograde amnesia occurring after *organic brain lesions*. Falret mentions a case of Battie's where a priest lost all remembrance of the events of the last four years after an apoplectiform attack; and in the case of Brown-Séquard's the amnesia produced by a similar cause comprised five years. Poggi had a case where a bright child of eight years knew nothing about his whole previous life after an attack of scarlet fever with severe brain symptoms. He did not know his father, his mother, his brothers, and had returned, intellectually, to the days of infancy.

The simplest and most characteristic cases of retroactive amnesia have been observed after *traumatic brain lesions.* Azam has shown that in almost all cases of traumatic brain lesion the victim has lost memory of the circumstances immediately following upon the accident, and of a longer or shorter period preceding it. It was Azam who named this phenomenon anterior or retrograde amnesia (of traumatic origin.) Joseph Bell has described a number of such cases, and Rouillard mentions the most interesting case of a midwife, 54 years of age, who fell down-stairs when starting from home to take a case, recovered after a short time, walked to the place where she was expected, did all the necessary manipulations with minute accuracy, and then, at the onset of copious hemorrhage, several hours after delivery, expressed her deep astonishment of being present, not remembering anything about her walk from home, etc., or the delivery or anything else that had happened since the accident.

The relative frequency of the phenomenon in *epilepsy* is mentioned by all authors; so by Savage, and by Féré, who compares it to the amnesia produced by traumatism, by Bianchi, Bonacci, etc.

It is of high importance from the medico-legal standpoint that two entirely different causes, epilepsy and trauma, may produce exactly the same effect, and give rise to the remarkable phenomenon of retroactive amnesia.

It must be mentioned that the true traumatic nature of some of the cases of retroactive amnesia has been doubted by prominent neurologists, there being in most of them *no direct blow* or similar injury, *but a fall,* which might be secondary to an epileptic attack, manifesting itself in the form of vertigo only. Such was the opinion of Charpentier and Féré in Brouillard's case (see above). Baroncini, however, thinks that there are clear cases of retroactive amnesia due to traumatism, but at the same time his opinion is that in all three forms of retroactive amnesia—those due to violent emotions, those following traumatism, and those produced by convulsive attacks—the true cause is to be sought in the "shock," the commotion of the brain, that leaves it exhausted by the violent nervous discharge. T.

HYPERÆSTHESIA FROM CEREBRAL CAUSES.—Freund (*Neurolog. Centrbl.*, No. 17, 1892) reports an anomaly of

the visual field hitherto undescribed, occurring in traumatic neuroses. It consists in a remarkable enlargement of the field for white and also for colors. Not only blue and red, but also the field for green extends to the usual limits for white. A case of recent traumatic hysteria showed this phenomenon exquisitely developed. Repeated subsequent examinations confirmed the accuracy of the observation. The illumination was ordinary daylight. There was evidence of hyperæsthesia of other senses and various areas of cutaneous hyperæsthesia. Hysterogenic zones were also present. There was no intra-ocular cause. Ophthalmoscopic findings negative. In the author's opinion, this condition may probably also arise in other irritative states of the cerebral cortex.—*The Epitome of Medicine.*

Reflex Neuroses.—Dr. Robert T. Morris (*American Journal of Obstetrics*, December, 1892) states that 80 per cent. of all American women have adhesions which bind together the glans of the clitoris and its prepuce in whole or in part, similar in character to those which occur less frequently in the male, and which produces such an impression upon the more sensitive nervous centers of women that degeneration of the entire sexual apparatus may follow, leading to serious nervous conditions, dislike for sexual congress and even sterility.

Irritation of the clitoris may cause, at first, perverted sexual diseases of various kinds, but if continuous, as a result of adhesive irritation or of masturbation, the reflex neuroses may result.

"Chronic peripheral over-stimulation of the centripetal nerves connected with the centers of the spinal cord and brain lead, in ordinary consideration, first to acute reflex demonstration, then to slow degenerative changes in sympathizing organs, and finally to further complications dependent upon the diseased or functionally disturbed organs. For instance, if clitoris irritations lead to relaxation of the uterine ligaments, and the succeeding malposition of the uterus leads to circulatory disturbances that cause degeneration of the ovaries, the patient may suffer more from the ovarian complication than from the cause of her ovarian disease, but removal of the diseased ovaries will not make her a well woman. The fast-growing girl with preputial adhesions may become languid enough to sag into scoliosis until muscular relaxation is prevented

by a removal of the cause. The young asthmatic, the girl whose uterus droops until it comes up in anteflexion upon the pelvic floor, the patient who is listless and fretful and fanciful as to her food, the patient with enuresis, with dysuria, with menstrual irregularities, the cataleptic, the epileptic, the patient with nervous dyspepsia or spasmodic stricture of the œsophagus or simulated hip-joint disease, or with pseudo-paralysis, or with oft-recurring sick headache—all should be examined for preputial adhesions before making a diagnosis."

These conditions may arise from other causes, but since this one condition of the clitoris has been the cause of all these disturbances, the attention of the physician should be directed first to this point, and lead to an examination.

TRIONAL AND TETRONAL.—Raimondi and Mariottini (*Rif. Med.*, August 17th, 1892), from a series of observations on Trional and Tetronal, comparing them with Sulfonal, arrive at the following conclusions: 1st, Both drugs act as powerful hypnotics, similar to sulfonal, exercising their action on the cerebral cortex. 2d, They succeeded in many cases in which sulfonal had failed. 3d, The influence of the ethyl group on the hypnotic action in man was marked, but with an increased number of ethyl groups in the molecule, the toxicity of the compound increased. The toxicity of sulfonal, trional and tetronal was about as 1 to 1½ to 3. 4th, The drugs have but little harmful action on the vital functions, but their action on these functions increases in the above order. 5th, Both have a slight cumulative action. Their hypnotic action passes off less rapidly than that of sulfonal and there is more danger of a cumulative effect. 6th, With neither trional nor tetronal is there a condition of tolerance established, nor must the dose be increased. 7th, After small doses neither has any influence on sweat or temperature, the sleep is natural and respiration normal. 8th, The symptoms of slight poisoning by both are similar to those of sulfonal, but no permanent harm is done to the vital centers. In severe poisoning the stomach should be emptied, or if the drug is absorbed, its elimination should be hurried by diuretics, while stimulants are given. 9th, Good effects can be got on single doses of ½ to 1 or 2 grammes, though their prolonged use is not recommended, but trional should be alternated

with sulfonal. With trional large doses should first be given to overcome the insomnia and, if necessary to repeat on the next day, only half or two-thirds should be given. This will keep the effect without danger. 10th, From ½ to 1 to 3 grammes, according to age, sex, habit, etc., may be given, suspended in warm milk, broth, etc., about a quarter of an hour before it is desired to produce sleep, while sulfonal must be given about an hour before its effect is desired.

Objective Symptoms of Neurasthenia.—Löwenfeld (*Neurolog. Centrbl.*) says that among the objective symptoms of neurasthenia the following deserve special mention: Pale complexion and emaciation induced by derangement of sleep and nervous dyspepsia; pronounced redness of the conjunctivæ and the ears; dilatation and frequently transient inequality of the pupils; incomplete closure of the eyelids when directed to stand with closed eyes; fibrillary tremor in the orbicularis oris and the musculature of the tongue; weakness in convergence of the eyes; unconscious and aimless movements of the extremities; increase of the skin and tendon reflexes (loss of knee-jerk was not observed); pronounced mechanical irritability of the facial nerve; increased electrical irritability of nerves; weakness and indistinctness of speech; manifestations of paraphasia and verbal amnesia; changes and errors in writing; a disposition to abnormal laughing and yawning; acceleration and irregularity of the heart's action; abnormal prominence of the temporal arteries in consequence of vasomotor disturbances; nervous dyspepsia with anomalies of the motor and secretory functions of the stomach with eructations and vomiting; nervous constipation and diarrhea; polyuria, phosphaturia and oxaluria; moreover, a uric acid diathesis of long duration. The latter may be associated with a neuropathic condition either congenital or acquired, or with the neurasthenic state.—*The Epitome of Medicine.*

Hereditary Chorea (Huntington's Disease).—W. S. Menzies (*Jour. Ment. Sc.*, Oct. '92 and Jan. '93) presents an interesting clinical and pathological contribution to the subject as studied in two families—one of eighteen members, the other of ten members.

On the pathology, he says: "The clinical signs of this disease are so identical with those of ordinary

rheumatic chorea that we are driven to conclude that, whatever may be the nature of the lesion, the position in the nervous system is the same." It seems probable that the large motor cells of the third layer are defectively inhibited, "either by disease of the higher cells or by interruption of connecting fibers." The latter is more probable, for the cerebral phenomena of an early case suggest no organic defect, but only a want of proper control, as evidenced by the rise of the emotional element.

The record of a *post-mortem* examination critically made by Dr. E. T. Wynne is appended. T. D.

Epilepsy.—Mantha has collected twenty-two cases of *epileptic attacks* caused by the presence of *tape-worms* in the intestine. These cases of pseudo-epilepsy differ in several particulars from the idiopathic form of the disease. The attacks do not begin with the same abruptness as the true epileptic ones. The patient has time to make protective arrangements, to lie down, etc. Injuries, as by heavy falls, are rare. The convulsive and comatose periods last longer than in idiopathic epilepsy. The attacks show a decided periodicity, appearing every month at a given time, every year during the same season. The intervals are sometimes very long—two or three years. Men are oftener affected than women. The prevalence of the convulsive movements on one side of the body is not found as often as in true epilepsy. The initial cry, the biting of the tongue and the frothing at the mouth are of no diagnostic importance. They may be present or absent. After ejection of the worm the attacks cease, but during the first days following the cure, one attack, as a rule a light one, may occur. In a number of patients who were observed for months and years after the removal of the tape-worm, no more attacks made their appearance.—*Arch. Génér. de Médic.* Nov.–Dec., 1892.

A Urinary Indication for Operating for Epilepsy.—M. Gilles de la Tourette (*Archives Médicales Belges*) calls attention to the frequency with which no lesion is found on trephining, owing to the difficulty of distinguishing hysterical epilepsy from epilepsy due to a neoplasm. He and M. Cathelineau have observed in M. Charcot's service in true epilepsy due to neoplasm there is always a noticeable increase of the fixed residues of urea and

phosphates in the urine at the time of a paroxysm, whereas in hysterical epilepsy there is a perceptible diminution of the same elements at that time.

EYE-STRAIN, AND ITS RELATION TO CEREBRAL HYPERÆMIA.—Dr. E. C. Seguin (*N. Y. Med. Jour.*), says eye-strain, especially that due to paresis or original weakness of the third or sixth cerebral nerves produces many symptoms besides cephalalgia and migraine, the chief of which are: "Occipital, sub-occipital, and occipito-cervical pain and distress; a sense of stiffness in the occipito-cervical region; feeling of fullness, pressure or lightness in the head; sensations of numbness or of formication in the scalp; varying degrees and forms of dizziness, but not true vertigo (labyrinthine veritgo and vertigo from diplopia are excluded); inability to read, write, sew, converse, sit at table, to go on the street or into rooms, and even to 'think,' without supervention or aggravation of symptoms; fear of certain places; insomnia; emotional attacks; pains (differing from migraine) in various parts of the head; and, later, the multiple symptoms termed neurasthenia," symptoms too frequently grouped under "such wholly theoretical diseases" as "cerebral hyperæmia" and "*congestion of the base of the brain*," but which Dr. Seguin prefers to term "*cephalic paræsthesia*, and groups them according to their pathogenesis, differentiating between the symptoms caused by paresis of the third nerve and those due to paresis of the sixth nerve, apart from the element of refraction, which is also important.

As means of diagnosis, he calls attention to the following: Approximating a small object to patient's nose, increases the suffering of subjects with third nerve paresis (insufficiency), while those with paresis of the sixth nerve experienced distress when looking outward or around without turning the head, by moving a bright object circularly, or rotating a wheel before them.

Subjects of third nerve paresis are relieved by strychnine, and aggravated by mydriatics; whereas mydriatics relieves subjects of sixth nerve paresis, and strychnine makes them worse.

Apart from proper glasses and prisms, and in some cases partial or total tenotomy, the scientific treatment consists of the internal use of strychnine and nerve tonics generally, for third nerve paresis, and of cannabis

indica, atropia, conium, the bromides, antipyrine, etc., for paresis of the sixth nerve.

In both, rest, even prolonged atropinization, and a general restorative treatment, are necessary, and change of scene and travel are useful.

Tobacco is injurious to persons whose third nerves are weak.

THE ETIOLOGY OF GOITRE AND CRETINISM in the Pyrenees has been made the object of special researches by Dr. Chopinet. He arrives at the following conclusions:

1. Goitre and cretinism are symptoms of one and the same disease and are observed almost exclusively in the bottom of valleys and near rivers.

2. The intensity of this endemic trouble increases from the source of a river down to where it leaves the outskirts of the mountainous region. It is most marked in the widest part of the valleys.

3. The disease is decreasing at present in the whole district. From some places that used to be affected it has disappeared altogether. This change cannot be attributed to a change in the chemical condition of the drinking water, but is due to the improved hygienic conditions and to the general progress of the population.

4. It cannot be denied that one of the constituents of the soil, viz, the schistic lias, has some injurious influence.

5. Amongst the numerous causes of goitre and cretinism, humidity and uncleanliness of the houses, defective aëration, want of light and poor nutrition are prominent.

6. In the district studied by Chopinet this theory of the multiple causation of the disease is the only one that is not contradicted by the facts.—*Revue Internationale de Bibliographie.*

A CASE OF THOMSEN'S DISEASE is reported by Dr. Pezopoulos (*Bull. Méd. et Pharm. d'Athénes*, 31st of July, 1892). The person affected was a boy of ten years who appeared quite healthy and had never been sick. The father stated that the boy always felt great difficulty to make the two or three first steps when he started to walk. The same difficulty was felt whenever he had to make a new effort in the course of his walk, such as ascending some steps or a hill. Gradually the upper

limbs became affected, extension of the fingers only being impeded at first, while the other movements remained normal. The patient's father, his younger sister and one uncle (brother of the father's father) all had the same disease but in a lighter degree. The uncle, now 70 years old, noticed in his early life a difficulty to flex his legs when starting to walk; the same happened whenever he tried to change the speed of his gait. In the boy the difficulty of making the first steps was varying; it was most marked after a long walk. In the upper limbs, only difficulty to extend and to abduct the fingers was noticed. Besides, he had some difficulty to pronounce the first words when beginning to speak. He also would open his mouth slowly and not at once. There was no difficulty of mastication. Passive movements of the extremities could be executed without any trouble. The sensibility, the knee reflex, the eye-sight and the organs of generation were all in normal condition. All the muscles of the upper extremities and of the head responded almost normally to the Faradic current. The muscles of the lower extremities reacted abnormally, more especially to quadriceps femoris, which fell into tetanic contractions under the effect of the current and remained contracted for several seconds. A complete electrical examination was impossible on account of the resistance of the patient. Under the influence of excitement of any kind the muscles of the lower extremities contracted distinctly. The author defines the disease in the following way: "a normal contraction of the muscles at the beginning of voluntary movements, in consequence of which these movements become difficult for some moments." Thomsen first described the disease in 1876, under the name "muscular ataxia and tonic spasms from a psychical predisposition." Thomsen and some of the members of his family were affected by the disease. Strümpell gave it the name "congenital myotonia;" Weichmann called it "congenital intermittent myotonia;" Longuet, "congenital dysmyotonia."

Dorsal Paralysis in Alcoholism.—The influence of alcohol in causing neuritis has received much attention from medical writers within recent years, and our knowledge is fairly complete on the subject. Dr. Buzzard, in England, for example, has shown in his published works the importance which this symptom acquires in cases of chronic alcoholism. The most usual form, however, in

which this variety of neuritis is met with is that in which the peripheral nerves of the extremities are involved. It is interesting, therefore, to call attention to a class of cases which have recently been noticed by Dr. T. Deane, of San Francisco, in which there was paralysis of the dorsal muscles. This practitioner has now met with upwards of twenty cases of this kind, and he has assigned to them the name "inebriate's back." In all the cases so diagnosed there was a history of a prolonged debauch, but the patients were not particularly under the influence of alcohol when the partial paralysis supervened. The loss of power usually affected one side only, and it occurred with equal frequency on either side of the body. The first case that came under his notice was that of a sailor who had been drinking excessively for a fortnight. There was a history of his companions having thrown him down. On admission to the hospital he could not stand, but no contusions nor injury either to the spinal column or ribs could be detected on examination, and the only lesion discoverable was paralysis of the erector spinæ and the spinal and abdominal muscles on the right side. Without treatment the patient recovered, after a night's rest in bed.—*Weekly Medical Review.*

Progressive Paralysis.—The part that alcoholism plays in the causation of progressive paralysis has been discussed by the French alienists at their second annual congress at Lyons. Rousset, after a full analysis of the present condition of this question, arrived at the following conclusions: 1, The importance of alcoholism in the causation of progressive paralysis has always been the object of controversies. 2, Quite a number of the supposed alcoholic paralytics have committed alcoholic excesses, but not until *after the onset* of the progressive paralysis, so that they are an effect rather than a cause of the disease. 3, The simultaneous progress of the alcoholic and of the paralytic symptoms must not lead us to the conclusion that the one condition is caused by the other. The geographical and ethnographical conditions do not seem to favor the theory of a causative relation between alcoholism and progressive paralysis. 4, The opinions of the superintendents of the French asylums differ on this point. 5, Very probably the importance of alcoholism as a cause of progressive paralysis is secondary to the individual

predisposition, which may be cerebral, arthritic, nervous or alcoholic. 6, In a limited number of cases alcohol may cause progressive paralysis without any individual predisposition, causing proliferation of the connective tissue elements and sclerosis in the brain.

Magnan lays stress not only on the individual predisposition but also on the predisposition of the organ itself for the localization of alcoholic lesions. He does not recognize an alcoholic pseudo-paralysis distinct and separate from general progressive paralysis. The patients supposed to suffer from alcoholic pseudo-paralysis, either are chronic alcoholics with cerebral lesions, or true paralytics showing remissions in the first stage of the disease, or hereditarily degenerated individuals, in whom alcohol produces cerebral symptoms simulating progressive paralysis.

Régis attributes to alcohol a secondary importance in the production of progressive paralysis, insisting upon hereditary predisposition and syphilis as the most prominent causal factors.

Marie and Bonnet have derived from their own observations the fact that alcohol favors the development of progressive paralysis in those hereditarily predisposed much oftener, but in the same way, as other poisons (morphine, mercury, lead).

Combemale reports on his experiments on dogs, made in Montpellier and Lille. He got the dogs used to the ingestion of alcohol, and produced in them certain somatic and psychical symptoms, coming on between the fourth and eleventh month. At the autopsy lesions were found that are characteristic of progressive paralysis. Christian believes that the lesions produced in this way were those of an encephalitis that should not be confounded with the meningo-encephalitis of progressive paralysis.

Mairet distinguishes a special alcoholic progressive paralysis, characterized by delirium of the senses, motor disturbances, as in spasmodic tabes, perversity of the character, etc.

Joffroy thinks that the question cannot be solved by the statistical method, based on the history of the cases, but only by careful anatomical researches. He differs from the generally accepted statement that the changes in progressive paralysis, are interstitial, and considers them as parenchymatous lesions.

Pierret adds that he has observed cases of progres-

sive paralysis without interstitial cerebral sclerosis.—*Archives de l'Anthropologie Criminelle*, No. 35.

CLINICAL PSYCHIATRY.

INSANITY AND CHOLERA.—Dr. Camusat, the medical superintendent of the Bonneval Asylum in France, has had occasion to observe the effect of an attack of cholera on the mental condition of insane patients and has published his observations in the *Annales Medico Psychologiques, Novembre–Décembre*, 1892. The Bonneval epidemic fully supports the well-known fact that an intercurrent disease, more especially a febrile affection, improves the mental condition. Camusat's observations comprehend sixty patients, mostly women, amongst whom all the main types of diseases of the mind were represented.

The effects of the intercurrent disease were most marked in maniacs. The maniacal condition, however bad and of however long a standing it may have been, disappeared in every instance, but in none of the cases was there a permanent cure. Camusat gives the history of all twenty-two cases of cholera attacking maniacs. Some of the most interesting will be repeated here in outline:

1. Miss M., 27 years old, strong and of a good constitution, affected by mania for three weeks, this being her first attack. No unfavorable family history.. Almost continually violent excitement, incoherent talking, disorderly actions, singing, screaming, making faces. The patient often strips herself completely; she will often kneel down and stay immovable, with crossed arms, praying. She was attacked with cholera on July 30th, in the morning, and succumbed on the evening of the same day. Immediately after the onset of the disease the excitement ceased and the patient's reason returned. She understood her condition perfectly and faced it coolly. She said she knew it was all over with her. She was suffering much, but in spite of this she would express her regret that she was not able to see her parents. She asked for a priest immediately lest she might be unable to have his attendance from supervening unconsciousness. Death was preceded by a short agony, with loss of consciousness, coma and stertorous breathing.

This attack of cholera was very severe, the algid state

setting in within half an hour after the first choleraic state. It was at that moment that the maniacal condition disappeared almost instantaneously.

2. The second case was a chronic one. Miss Z., aged 34, having been a maniac for five years. There was excitement, incoherent talking, vague ideas of persecution, hallucinations and multiple illusions. The case was characterized by an alternation of improvements and exacerbations. The patient was attacked by cholera on the 22d of July, and died two days later. She became quiet and rational almost from the onset. She complained much about the cramps and attacks of colic and expressed her fear of dying, like some of her comrades. She answered rationally to all questions, showing that her mental faculties were perfectly normal yet, no dementia having developed in spite of the long standing of the case.

3. This case, Mrs. D., is remarkable because she recovered from the attack of cholera, falling back into her old condition at the same time. She had been at the asylum for twelve years, always in the same condition: chronic mania, with exacerbations of short duration. She was able to do a little work and often show traces of well-preserved mental faculties. She was attacked by cholera on the 2d of August and remained in the algid stage for some days, her temperature falling to 33 per cent. in the axilla. She recovered slowly. During the whole of the algid stage the maniacal condition was absent, the patient being quite rational, expressing herself correctly and giving all the information she was asked for. She remembered that she had had cholera once before when she was a child and living at Paris. As soon as the worst period of the disease terminated, the mania reappeared, beginning with an attack of hyperexcitement, and the old condition was soon re-established in all its details.

There were other cases very much like this.

4. Another case occurred in a woman, 55 years old, belonging to a family with hereditary predisposition to nervous disease. She had previously had several attacks of mental aberration that were cured. For the last time she had been transmitted to the asylum eight years before she succumbed to cholera. During this time her condition was stationary—violent maniacal agitation of an impulsive and dangerous character and of a distinctly

erotic type; there never was a possibility of obtaining a correct answer from her. During the two days of her attack of cholera she was perfectly quiet and able to tell that she was suffering much, but she did not seem to comprehend her situation and did not express any fear of dying. She was able to answer every question relating to her disease, but perfectly unable to state her age or the year she was living in, although she knew where she was.

In this case, then, dementia had developed during the prolonged state of chronic mania, and the intercurrent acute febrile disease stopped the manifestations of mania without having any influence over the dementia.

Similarly in another series of cases comprising patients with mania and idiocy or imbecility, the attack of cholera removed the manifestations of mania, the other conditions alone persisting.

In the melancholics attacked by cholera, the effect of this disease was very much less marked than in the maniacs, nor was it as general. It was also noticed that proportionately fever melancholiacs were affected.

In one case the effect was very much like in the cases of mania:

A woman of 58 years, named Olive M., who had been in the asylum for thirty years, suffering from melancholic dementia and who died after two days' suffering, became able to give perfectly reasonable answers during the height of the disease, and it was seen that her mental functions were not as bad as had been supposed from perturbations during her long life in the institution. She fully realized her condition, thanked her nurses and said that it was all useless and that she had been there too long already.

In many melancholics the intercurrent acute disease seemed to aggravate the condition rather than improve it. They quickly passed into deep prostration and the habitual and systematized delirious ideas persisted until the last. Apart from the case mentioned above and from one resembling it closely, an improvement was only noticed in those whose delirious ideas were vague and superficial rather than deeply-rooted and ever-recurring.

In all cases of monomania, particularly in those of monomania of persecution, the mental condition was not in any way affected by the intercurrent attack of cholera, although any exalted condition present was relieved

temporarily. In some cases it was evident that the hallucinations of hearing and the disturbances of general sensibility persisted during the gravest part of the disease, and in fact, until the death agony. A woman of 50 years that died after suffering for three days, persisted to talk about one Doctor Herpin, who, she said, was incessantly tormenting her with electricity, and she thought it was his battery that was causing her cramps and pains.

Only one of the patients with diffuse peri-encephalitis (progressive paralysis) had an attack of cholera, to which he succumbed after a week. He was far advanced and no change could be observed in the condition of his mind. About the same thing was observed in the demented, but affected in a lighter degree, however, showing enough improvement to understand the situation. In general, these patients had very slight power of resistance only. No effect was noticed in the case of a demented epileptic. Two patients with senile dementia became fully conscious of their condition and felt their end approaching. They showed a perfect resignation and even indifference. A chronic alcoholic with weakened mental faculties and vague ideas of grandeur and persecution, ceased deliberating as soon as he was taken sick. He saw his end approaching and expressed great fear of dying. The effect of cholera on the idiots was not very marked. They suffered, complained of their sufferings and returned, in the cases terminating favorably, to their old condition as soon as the algid stage was over. An imbecile that was affected with extensive and continuous choreiform movements was perfectly free of them during the grave stages of the disease, but the choreiform movements reappeared immediately after the termination of the algid stage. Two weak-minded, hysterical young women, that both fell victims to the plague, faced their situation coolly. They said they were going to die and were quite composed.

Contribution to the Study of the Delirium of Collapse, by Aschaffenburg (*Journal of Medicine* of Brussels, 1892).—Weber, in 1866, defined and differentiated delirium of collapse of other morbid mental forms, coming in the class of astheniques psychoses, the psychosis through delirium of Stroepelin.

The delirium of collapse arises from the following serious diseases that cause great thirst in the

organism, especially after ague troubles. The patient is taken from motive agitation, his ideas becoming disconnected, and often speaking in verse. The intellectual disorder takes the form of monomania, his replies have less and less connection with questions asked, sometimes bearing no relation whatever with the subject. His humor is changeable, he is a prey to hallucinations and illusions, and sleeps and eats poorly.

In certain cases his powers weaken more and more, the collapse growing more marked, and death comes unexpectedly. Ordinarily the patient gets well; after some days, intelligence becoming suddenly clear, then recovery is established. Sometimes the disease is of longer duration; from the period of delirium, succeeds a period of ague dementia which precedes convalescence.

The delirium of collapse offers many points of resemblance to the delirium tremens, and Rose's traumatic delirium. The disorder of intelligence is less profound, there exists no *idéorrhie* in the affections, which in this way is distinguished from the delirium of collapse, which should not be confounded either with the access of maniacal fury of epileptics, nor with the rational delirium of the post-epileptic. The maniacal fit of most paralytics differ by the concomitance of somatic symptoms, with psychical symptoms; their movements are more uniform, their delirium is blended with ideas of more grandeur, and hallucinations are less frequent. *Amentia*, caused by chronic lesions, is often constitutional; delirium is more lucid; the general state of nutrition is better. Meanwhile, between *amentia* and delirium of collapse, there exists some forms of passage, which ought yet to be studied.

Regarding treatment of the delirium of collapse: abundant alimentations; as a last resort, milk or brandy may be given. For a hypnotic, *paraldéhyde*, the other narcotics being less advantageous. Prolonged baths to quiet the motive agitation.

PSYCHOTHERAPY.

THE USE OF HYPNOTISM AMONG THE INSANE.—Geo. M. Robertson, M. B., Senior Assistant Physician, Royal Edinburg Asylum, Morningside, gives, in *Journal Mental*

Science for Jan., 1893, a most interesting account of the employment of hypnotism at that institution. Dr. Robertson came home from France, where he had visited the different schools of hypnotism, "convinced of the reality of the phenomena, and of its great value as a therapeutic agent in certain cases," and has made such use of it among the female patients at the Morningside Asylum as time and opportunity permitted. The method followed was that of Prof. Bernheim. The operator informs the patient that he has the power of inducing sleep and obtains the consent and confidence of the subject. He then quietly suggests the feeling of sleep and gradually closes the eyes by pressing the hand over the eyelids. The patients whom Dr. Robertson was able to influence fell into the hypnotic sleep in five or eight minutes.

One of the first cases operated on was that of a woman subject to attacks of recurrent mania, ushered in by a long prodromal stage of irritability, excitement and severe cephalalgia, accompanied by intractable insomnia. The object was to relieve her of troublesome sleeplessness. As a rule she could be made to sleep four hours. Formerly she had required 60 grs. of bromide and 40 grs. of chloral to produce sleep.

In a case of hypochondriacal melancholia full of fleeting delusion, it was hoped that hypnotism might dispel the delusions. The treatment went on daily for six weeks and there was an uninterrupted, steady progress toward complete recovery.

The comparatively sane epileptics were found to be very susceptible to hypnotism. The headaches and confusion, of which they so often complain, were frequently dispelled.

A number of other cases are cited in the peculiarly interesting and readable style of the writer, who summarizes as follows:

It may be used firstly, as a direct therapeutic agent.

1. *In insomnia.*—It may succeed in intractable cases where drugs have not succeeded well. Hypnotic sleep, being more closely allied to healthy sleep than is drugged sleep, must be of great service where the brain nutrition is already bad, and the additional effect of depressing drugs undesirable.

2. *As a sedative in excitement.*—It may be here of

direct therapeutic value in preventing an outburst of excitement from passing into mania in a brain in a highly unstable condition.

3. *To dispel fleeting delusional states and the minor psychoses.*—By means of verbal suggestion in the hypnotic state these lesser degrees of mental derangement have been removed.

In addition to its direct therapeutic uses hypnotism may be used for purposes of management.

1. *To overcome the morbid resistance of patients for their own benefit.*—Patients often refuse to do what is necessary for their welfare, and by hypnotizing them they can be made to do what is desired. I have instanced the giving of medicine, but many other purposes can be thought of. I have lately induced a patient to take food in the hypnotic state, when she had required to be artificially fed for a week.

2. *As a substitute for restraint.*—In cases of excitement and violence, instead of mechanical, physical or chemical restraint, we may use hypnotism, which may be described as a form of mental restraint, either alone or in combination with the last. It is, however, uncertain, and not always possible.

Dr. Robertson further adds: "I do not believe that hypnotism can cure pronounced or advanced forms of mental disease, and I am not hopeful of it even doing good in cases of fixed delusion." T. D.

NEUROTHERAPY.

Treatment of Persistent Hiccough.—The *Medical Times* contains the following excerpts on this subject, compiled by F. H. Pritchard, M. D., Norwalk, Ohio:

Digital Compression of the Phrenic Nerve.—Dr. Leloir (*La Sémaine Medicale*, No. 2, 1892), of Paris, was consulted with regard to a five-year-old child who for a year had suffered from an obstinate hiccough. It appeared every half-minute and prevented sleep and eating. The father had consulted a number of physicians and the child had received any quantity of antispasmodics but without success. The writer hit upon the idea of compressing the phrenic nerve, between the two insertions of the sterno-mastoid. Compression, though somewhat painful and

lasting for three minutes, was successful. The hiccough disappeared and not to reappear. This was five years ago, and since then he has employed it in a large number of individuals, some of whom, like this child, were suffering from an obstinate form of the disease but he has always had good results. In some cases it was necessary to continue the compression several seconds. The method furnishes, the writer thinks, a practical application of Brown-Séquard's interesting researches upon inhibition.

Physostigmine.—Dr. Schallenberger (*Norsk Magazin for Laegeirdenskaben*, No. 10, 1892), cites Dr. Smart, of Edinburgh, with regard to chronic alcoholism as a cause of hiccough and that it may become so persistent as to interfere with sleep and finally, with nutrition. In these cases Dr. Smart has found all remedies inefficient, except large and toxic doses of morphine. The writer has employed physostigmine successfully in such cases. He gives four to eight drops of a good fluid extract, every three to two hours, until the signs of toxic symptoms set in. He claims to have a number of cases where the hiccough ceased in two or three days. A hysteric hiccough, of several months' duration rapidly disappeared under this treatment.

Washing out the Stomach.—Dr. E. Brown (*La Sémaine Medicale*, No. 2, 1892) had a case where a number of sedatives and narcotics had been given, without success, and where a single washing out of the stomach removed a quantity of fragments of food and brought relief.

Jaborandi and Pilocarpine.—Dr. Le Nobel (*Norsk Magazin for Laegeirdenskaben*, No. 12, 1892) records the case of a soldier, 21 years of age, who, after an attack of influenza, was seized with a hiccough that had lasted for two days and was of unusual intensity. An infusion of the leaves of jaborandi (5:200 gms.) was ordered and of this a spoonful to be given. One spoonful produced a profuse sweat and flow of saliva, so that the entire bed was wet through. The hiccough ceased.

Ortille (*Bull. de Therap. Med. and Chirur.*, 1879) described a case where the hiccough had persisted for seven months, and that was cured by pilocarpine.

LOCOMOTOR ATAXIA CAUSED BY THE USE OF MORPHINE.—At the meeting of the Society of German Naturalists and Physicians (*Wein. Klin. Wochensch.*), Althoff

reported that he had observed a peculiar ataxic phenomena in dogs that had during a long period received subcutaneous injections of morphine. The reason he found to be a degeneration of the posterior columns of the cord in the dorsal region. Specimens were shown. The color of these columns is gray to the naked eye. Microscopically there was found in them complete or almost complete absence of axis-cylinders, consequently degeneration of the same. This is the first instance in which a system disease of the cord has been artificially produced in the dogs, and at the same time explains the existence of tabetic symptoms in many instances of morphine habitues.—*N. Y. Med. Times.*

CEREBRINE.—The "brain matter" employed by Constantin Paul in neurasthenia, locomotor ataxia and mental diseases, is prepared in the form of a ten per cent. glycerine extract as follows: Half an ounce of gray matter is taken from the brain of a freshly-killed sheep and finely divided. It is placed in three times its own weight of pure glycerine and allowed to macerate for twenty-four hours. An equal quantity of distilled water is then added and the mixture passed through a d'Arsonval filter under very high pressure (fifty atmospheres); in this way a clear, colorless fluid is obtained which contains no organized particles.

The initial dose is fifteen minims, introduced subcutaneously in the flanks or in the lower dorsal region, and this is increased by fifteen minims every second day until the limit is reached, seventy-five minims being considered the maximum. The latter dose is continued twice a week until twenty injections have been given.—*American Therapist,* February, 1893.

ANIMAL PRODUCTS IN THERAPY.—The use in therapeutics of substances derived from the animal kingdom is not altogether novel; we need but refer to cantharides, to the digestive ferments, and to vaccine; but the developments of a few years past lead in a somewhat new direction and indicate that ere long a number of products of animal origin equal in power and importance to such vegetable derivatives as quinine, strychnine and morphine will be placed in our hands. The usefulness of the thyroid gland in the treatment of myxœdema, and perhaps of some other affections, *e.g.*, cretinism in an early stage;

the usefulness of the serum of dog's blood and of goat's blood in the treatment of tuberculosis; the limited usefulness of pancreatic preparations in some cases of diabetes mellitus, are instances of one aspect of the problem —that of supplying to the organism substances normally present, the absence of which causes disturbance of function, auto-intoxication with katabolins, or lessened power of antagonizing specific toxines. The usefulness, in some cases of pneumonia, of tetanus and of diphtheria, of antitoxines present in the blood serum of human convalescents or of inoculated animals, or developed in inanimate culture-media, illustrates another aspect.

Finally, the testicular injections of Brown-Séquard, the infusion of nerve-substance and similar experiments, while as yet not only inconclusive but applied most unphilosophically, nevertheless indicate that various tissues and juices of animals contain substances of toxic and therapeutic power, which deserve study, and for which important uses may be found.—*Medical News.*

Action of Apioline.—Dr. Pelletan, in his clinical notes on apioline, states that the drug administered in spherical capsules of twenty centigrammes each, has proved in his hands a true stimulating emmenagogue, acting directly on the ovaries and uterus or the ends of the nerves contained in them by irritation of the mucous membrane during its elimination through the utricular glands and by producing hyperæmia of the ovaries during its circulation through them; the pain in spasmodic or congestive dysmenorrhea is thereby relieved.

It is, moreover, indicated in atonic amenorrhea, when the uterus and the ovaries are primarily at fault and the inactivity is not due alone to anæmia.

In fact, in all cases amenable to internal remedies, where a correct diagnosis of the symptoms had been made and suitable hygiene and treatment observed, he found apioline relieved the suppression, regulated the catamenia and prevented or removed the accompanying pain and proved to be a most powerful emmenagogue.

The Elixir Iodo-Bromide of Calcium Comp.—The combinations into which iodine enters with potassium, sodium, ammonium, arsenic and iron have long been considered the remedies where so-called alterative medication is the desideratum. Latterly, the attention of the

profession has been directed to the iodide of calcium, by Prof. Germain See, of Paris, in which the advantages over iodide of potassium are expressly emphasized. Our thanks are due The Tilden Co., of New Lebanon, N. Y., manufacturers of the Elixir Iodo-Bromide of Calcium Comp., which contains this valuable ingredient, for having called our attention to these facts.

HYSTERIA.

℞ Antikamnia . . . . . ℥ ss
Alcohol . . . . . ʒ i
Elix. ammon. valerian ad . . ℥ vi
M. Sig.:—One teaspoonful three times a day.

THE BROMIDIA COMPOUND IN THE MORPHINE HABIT.—Dr. Breitbach, of Badkreuscha, Dresden, Germany, recommends this well-known hypnotic compound prepared by Battle & Co., of St. Louis, as of great service in cases of neuralgia and the morphia habit.

BARIUM CHLORIDE IN EPILEPSY.—Lisle (*New York Medical Journal*, LVI., 24, page 654) has employed chloride in doses of gr. ⅛ to gr. ½, given every four hours, in the treatment of epilepsy, with favorable results.

NEUROPATHOLOGY.

EYE-PARALYSES.—In an elaborate article on this subject, John Armory Jeffries (*Boston Med. and Surg. Journal*) concludes as follows:

1. All cases of lateral conjugate paralysis are of central origin.

2. When the paralysis is on the same side as other paralyses, the lesion is on the opposite side of the brain. Such paralyses, as a rule, are transitory and follow almost any sudden lesion, and often only show themselves as a prevailing position of the eye, and not as a true paralysis or even paresis.

3. When the paralysis is crossed with the paralyses below, the lesion is in the pons-medulla region.

The above three are equally true of spasms.

4. A gradual development of conjugate paralysis clearly points to the region of the sixth nucleus of the same side as affected.

5. Paralysis of up or down motions or both motions indicates disease in the region of the corpora quadrigemina, but may be due to disease in the third nerves proper, at the point of exit.

6. Reasoning from analogy, paralysis of convergence points to disease in the central gray below the aqueduct, but as yet autopsies are lacking.

7. Picked paralysis of parts of a third nerve strongly suggests central disease, but is not proof of it.

8. A majority of the cases of eye paralysis occur in the syphilitic.

9. A paralysis which changes rapidly, quickly showing fatigue, is probably central in origin.

10. Transitory paralysis in the syphilitic is strongly suggestive of future tabes.

11. An eye paralysis, however simple it may seem, is always a just cause for suspicion of trouble to come, and demands a prompt and thorough examination of the patient.

12. There is no evidence that there is any form of connection between the sixth nucleus and the third, except in the cerebrum.

CHANGES IN THE CORTEX CONSEQUENT UPON THE ELIMINATION OF PERIPHERAL EXCITATION.—J. Luys has examined a number of brains for changes corresponding to the prolonged absence of certain groups of peripheral excitation during life, and has published his observations in the *Journal de Méd. de Paris.* The first brain belonged to a female patient, who had her left leg amputated at the upper third, twenty years before her death. The right hemisphere was found to be by one centimeter shorter than the left one; the upper portion of the ascending frontal convolution showed marked atrophy. In the region of the paracentral lobe there was a distinct notch with signs of resorption of nerve substance. At the corresponding points of the other hemisphere similar changes were found, but much less marked. Distinct atrophy was found in those parts of the *corpus callosum* that correspond to the ascending frontal convolutions.

The second brain belonged to a woman of 65 years, who had been deaf for forty years, but otherwise perfectly healthy. Luys found considerable bilateral atrophy of the roots of the acusticus, whose fibrillæ were gray

and very delicate and a similar atrophy of the roots of the glossopharyngeus, the calamus scriptorius being perfectly preserved. The upper portions of the ascending frontal and parietal convolutions of that hemisphere were not separated by the fissure of Rolando, but were contiguous throughout their upper thirds. Both parietal convolutions were partially atrophied, the frontal convolutions showing a compensatory hypertrophy.

The third brain was that of a woman of 66 years, who lost her eye-sight six years before her death. The nervi optici and the corpora quadrigemina were found to be considerably atrophied. There was no change in the proportion of the frontal and parietal convolutions. The first two frontal convolutions showed patches of ulceration due to a marked softening of the cortex in those places. They were surrounded by a network of vessels, and the pia mater was found to be adherent to the surrounding tissues. This is the third case where Luys has found softenings in the frontal convolutions after alterations of the field of vision.

A fourth brain came from a woman of 28, who had been afflicted with chronic rheumatism. This had gradually affected all her joints, so that the patient was confined to bed for the last three years, only able to move her fingers. The frontal convolutions were very rich in simple sinuosities; the ascending parietal convolution, more so on the left side, showed swellings and constrictions, such as Luys never had observed before.

Cause of Sclerosis of the Cord in Locomotor Ataxy.—Dr. Dejerine (*The Medical Week*) says that in tabes dorsalis the neuroglia, vessels and connective tissue septa of the cord are the parts affected, the changes in the vessels and septa being proportionate to the degree of hyperplasia of the neuroglia, but that the spinal lesions are secondary to, and the consequence of, primary neuritis of the corresponding posterior nerve roots, and bases his opinion on the following grounds: (1) The morbid anatomy of the affection—distribution of the lesions and constant relationship between the changes found in the posterior roots and in the posterior columns. (2) Experimental physiology. (3) Embryogeny, showing that the posterior columns develop from the spinal ganglia, which are the trophic centers for the posterior nerve roots.

NEUROPHYSIOLOGY.

FUNCTION OF CEREBELLUM.—From recent experiments made in the Loomis Laboratory, Dr. E. D. Fisher draws the following conclusions with regard to the function of the cerebellum: It requires a considerable lesion of the cerebellum to cause any but temporary symptoms, and that cortex lesions cannot be localized as in the cerebrum. Lesions of the hemispheres are recovered from more rapidly and more completely than those of the middle lobe.

The tendency of movements to one side or the other does not indicate the side to which the lesion belongs, consequently unless a cranial nerve lesion is present to guide us we are unable to determine the side upon which to operate. The psychical functions of the cerebellum could not be determined accurately, but in one case in which a large quantity of the organ was removed the mental change was watched and corresponded to the symptoms noticed clinically in cases of atrophy or absence of the cerebellum.—*Pacific Medical Journal.*

THE PANCREAS AND THE NERVOUS CENTERS.—The relations between the pancreas and the nervous centers that regulate the glycogenic functions of the liver have been investigated by the French physiologists, Chauveau and Kauffmann, who have reported on their studies to the Paris Academy of Sciences. According to them the inhibitory influence that the pancreas exerts over the glycogenic activity of the liver is governed by a center that excites the internal secretion of the cells of the pancreas. This center is situated in the encephalic portion of the nervous axis. The glycogenic activity of the liver-cells, on the other hand, seems to be governed by a center situated in one of the sections of the spinal cord. The inhibitory action of the pancreas probably is more on this center than on the liver itself. The pancreatic excito-secretory center has to be sought in the medulla oblongata, which also is the seat of an inhibitory center for the liver. The internal pancreatic secretion acts in a double way; by stimulating the inhibitory liver-center in the medulla oblongata, and by inhibiting the excito-secretory liver-center in the spinal cord. Suppression of the pancreatic secretion will diminish the activity of the inhibitory center and allow the stimulated center to act

without any restraint. This may explain the enormous glycogenic activity of the liver in subjects deprived of their pancreas. The fact that section of the medulla does not disturb the glycogenic function as gravely as extirpation of the pancreas, may be explained by supposing that the latter organ, although no longer under the influence of its stimulating centers, is not completely paralyzed, but continues to secrete, and to counteract by its internal secretion, the stimulating influence of the spinal liver-center. Besides, there probably exists an action of the internal pancreatic secretion on the liver itself, which has not yet been investigated.—*Le Progrès Médical*, March, 1893.

EDITORIAL.

[*All Unsigned Editorials are Written by the Editor.*]

Removal Notice.—The editorial and business offices of the ALIENIST AND NEUROLOGIST have been removed to rooms 421-2-3, Commercial Building, Southeast Corner 6th and Olive Streets.

Reform Prisons.—The valuable results expected to accrue from the classification of criminal convicts, such as is attained by the establishment of reform prisons, wherein appropriate cases are withheld from contact and association with the hopelessly hardened malefactors of the common penitentiaries, are no longer a dream of the philanthropist. The founding by the State of New York of a pioneer institution of this kind at Elmira, in 1876, was opposed by the magistracy of that period, as an unwise and dangerous departure in criminal legislation. Yet, in the short space of seventeen years, the useful consequences promised by the advocates of this enactment, have been most gratifyingly realized; and the municipal judges, who were at one time the most vigorous opponents of the reform, are now zealous in their efforts to select fit recruits for the Elmira institution.

The so-called New York State Reformatory, at Elmira, receives male convicts between 16 and 30 years of age, upon the indeterminate sentence plan, whereby the offenders are given opportunity, under an elaborate course of discipline and instruction designed to develop and bring into action their good qualities and feelings, to win their tentative discharge from the institution, and finally their unrestricted freedom and release from all further surveillance and restraint, long before the maximum or minimum sentences appropriate to their crimes would otherwise expire. From the recently published annual report of this reform prison, it appears that 5,899 prisoners have been committed to its care since its foundation, in 1876. It is of especial interest to psychologists to note that 12 per cent. of these inmates had insanity or epilepsy in their ancestry, and that in 38 per cent. drunkenness was clearly established as a vice of their immediate progenitors. Of the whole number, 3,289 won their paroles, after an average detention of 22 months. 2,157 of the latter are now absolutely released, 515 are still on furlough, and 433 had to be discharged by reason of the expiration of their sentences. The authorities estimate that less than 20 per cent. of

those furloughed or discharged have returned to criminal practices; whereas more than 80 per cent. have satisfactorily amended their lives and been reinstated in law-abiding society.

The favorable showing of the Elmira statistics in recent years has inspired a few other wealthy members of the Union to emulate so worthy and hopeful an example. In four States, besides New York, like institutions already exist, and in two other States, a similar equipment of the executive department with these modern instruments of reformation, is nearly completed. New York initiated the good work in 1876, and will soon duplicate, in the eastern part of the State, its Elmira establishment. Massachusetts followed, and then Colorado, Minnesota and Pennsylvania, in turn. Very soon, Ohio and Illinois will deserve the same honorable distinction.

Cognizance of all important infractions of law must of course be taken, by the constituted authorities, and the culprits if possible suppressed. It is the right of society to protect itself against those who defy its laws; and it is its duty to do so, for the safety of its individual members. The punishment of the criminal is necessary to prevent the repetition of his crimes, as well as to deter imitators. But the punishment, *per se*, of the malefactor is never, in modern times, the sole aim of legislative measures. Injuries once committed, are not to be undone or made good, in that way. The present trend of humane and enlightened public opinion appears to be toward the mitigation of all forms of legalized punishment, and the chief purpose of the latter to be the protection of society against the evil acts of its unworthy members, by making them incapable of future harm. That this outcome may frequently be best achieved, not by putting the offender away in a penitentiary, but by carefully weighing the circumstances of his age, his previous life and environment, and his degree of intellectual and moral development, and then by giving him, during the term of his confinement, corresponding opportunities and motives to reform, is now being demonstrated by the statistics of all well-conducted reform prisons. These latter are daily restoring reclaimed and repentant criminals, especially the younger ones, to society, as helpful instead of harmful members thereof.

WARREN WEBSTER.

A Case of Premature Burial has been reported from Saint-Gatien-les-Bois, a village near the city of Havre, France. The death of a male patient, 22 years of age, ill of typhoid fever, took place, as his physician believed, December 18th, 1892. On the 20th his funeral was held, but as the family cemetery-vault was not ready, the corpse was temporarily deposited in a receiving-tomb. For some reason it was removed from the latter to the church, on the 21st of that month, where, as the workmen had not yet completed the final resting-place, it was put under the faithful watch of one of the parish functionaries. The latter suddenly heard a noise in the coffin and removed the lid, when the occupant, emerging from his lethargy, bewailed before the summoned relatives, his threatened fate. W. W.

An Interesting Case of Lethargy, occurring in a school-girl thirteen years of age, lasting five months without remission, and ostensibly caused by fright, was reported to the Paris Psychological Society, in February last, by Doctor Raffegean, director of a medical retreat at Vésinet, France. We here render the report into English:

"The patient belongs to an eminent French family, and at the time of her attack, was the inmate of a large boarding-school, near Paris. Prior to this period she had enjoyed excellent health. Professor Charcot, who was summoned in consultation, recommended her immediate transfer to Vésinet"

Dr. Raffegean gives the following succinct account of the patient's symptoms and condition on admission to his institution: "Her attitude and appearance are characteristic of lethargy; her eyes have a fixed and meaningless stare, she appears to be in a state of absolute unconsciousness, and no reply to any question can be obtained from her. She may be deeply pricked with a needle without manifestation of any painful sensation. Her mouth remains widely open, disclosing both tonsils to view, one of which, the right, is much hypertrophied. Pretty regularly, once every five minutes, the poor girl undergoes a nervous crisis, in which she suddenly carries her left hand to the corresponding eyebrow, which she vigorously rubs, but without any discoverable return to consciousness.

"As the patient could not be made to accept food,

she was nourished throughout her illness, with bouillon, egg, chemical nutriment, etc., by means of an œsophageal tube. Every day she was taken long promenades, in the open air, in a perambulating invalid chair.

"Three days after arrival at Vésinet, the patient experienced a modification of some of her nervous phenomena. The crises or paroxysms ceased entirely, and the left arm and hand appeared to have lost all power of voluntary motion. The symptoms now simulated those of catalepsy. The eyes remained fixed, the countenance assumed an ecstatic expression, and when the girl's arms were lifted by the nurse, they maintained the position given them.

"While in the state just described, the patient was examined by several physicians, including Professor Ballet, of the Paris Faculty of Medicine, and Dr. Bérillon, Government Inspector of Hospitals for the Insane, and all of them confirmed the former diagnosis of a peculiar form of lethargy.

"As the patient, by reason of her utterly apathetic condition, was not amenable to psychical agencies in her treatment, the latter was limited to physical therapeutics, consisting principally of massage and various hydropathic devices. She made no perceptible advance toward consciousness during the most vigorous of these procedures; but the tokens of improved general health became markedly manifest during the regimen. At this stage, Dr. Raffegean bethought himself of cauterizing, with the red-hot iron, the hypertrophic right tonsil, which was visible and easily accessible, through the constantly parted mouth. At the same time a rational massage of the submaxillary region was instituted.

"From the moment of this cauterization, which was not repeated, the reaction toward health began. For the first time in five months, there was some expression of pain, and the patient uttered a feeble cry. The eyes began to lose their atonic look, and the mouth to close. She was no longer wholly indifferent to suggestions, and within a few hours after reaction had set in, she was successfully solicited to pronounce the vowels *a*, *e*, *i*, *o*, *u*, with considerable distinctness. The following morning, at seven o'clock, she awoke weeping, and cried out: 'Where am I?' at the same time begging for a drink of water. The nurse hastened to answer her wishes, and to console her by rapidly and discreetly communicating

what had passed during her five months of oblivion. The physician, after being convinced of her full restoration to consciousness, satisfied himself by searching investigation that his patient retained no remembrance at all, even if she ever experienced any recognition, of what had passed around her during the protracted trance."

At the date of Dr. R.'s report, the young girl was in the complete re-possession of her pristine health. Her interest in all her surroundings and school-girl projects seemed to have been sharpened by the recent deprivation or abeyance of her senses and faculties. She was more gay and talkative than ever, as if to repair the loss suffered during her mutism. W. W.

Modern Belief in Witchcraft.—In all probability no age or country has ever been exempt from the belief in magic or sorcery, but this superstition experienced its fullest development about the middle of the 15th century. So late as 1644, the just and enlightened Sir Matthew Hale exhibited an almost incredible degree of faith in the reality of sorcery; and in 1692, two New England clergymen, Cotton Mather and Samuel Paris, showed in their persecution of alleged witches, to what relentless cruelty human nature can descend when under the influence of frenzied delusion.

The explanation of these phenomena of mental deception or disease, occurring in an age of very imperfect science, is not difficult. It is likewise easy to conceive that the belief in magic or sorcery is still rife among the grossly ignorant and degraded, all over the world. The bulk of Buddhists in Central Asia believe their priests to be merely wizards who know how to shield them from the malignity of evil spirits; and according to African travelers, the executions for witchcraft are as common at this time in some parts of the "Dark Continent," as they were in Europe in the 17th century. On the other hand, it is hard to solve why the delusion of witchcraft has not more completely decayed before the progress of enlightenment and experimental science in advanced and intelligent communities, such as France conspicuously possesses.

The Correctional Tribunal of the City of Tours within the present year unearthed a sorceress who had plied her vocation not a hundred and fifty miles from Paris, in the beautiful valley of the Loire, where public school

instruction is well maintained. A family of peasants, named Bizouillé, had experienced a serious domestic bereavement, in the loss of their cow. The sorceress offered to help them retrieve their impaired fortune, through the exercise of her art. Bizouillé consented, and for two francs received instructions how to conjure luck with an infusion consisting of one twig of ivy and three leaves of myrtle. When the sorceress was apprised that the magical infusion had failed of its promised effects, she bestrode a broomstick, and abruptly and threateningly invaded the distressed household. The terrified Bizouillés were glad to get rid of their uncomfortable visitor by paying one hundred francs in cash for this additional prescription: "Procure a beef's heart, pierce it with forty-one pins, and bury it eighteen inches under the surface of the ground." These practices provoked such mental and nervous perturbation of the good people that when the Mayor of the Commune called to investigate the affair, he was set upon by the entire family, including the dog, and made haste to retreat, after the lamps of his carriage had been broken. The trial of the sorceress resulted in her conviction of an offense, but in view of the attenuating circumstance that she had honestly reared two children while her husband was confined in the galleys, she was punished with only two months in prison.

In December last, Jean Fort, a young farmer of the Commune of Queyrac, near the city of Bordeaux, was tried and convicted in the Assize Court, on the charge of having brutally assassinated an innocent old woman. He first riddled his victim with bullets, and then beat her head and face with the butt of his musket, beyond recognition. His sole apparent motive for the crime was his belief that the woman was a witch, and had ruined his health by casting a "spell" over him, which could only be removed by her death and disfigurement, as described.

Recently a celebrated magician of the island of Mauritius, named Diane, was executed in the prison of Port-Louis. He was of Hindoo parentage, thirty-five years of age, married, and the father of five children. In order to heighten his fancied superhuman influence over his fellows, he had become persuaded that it was necessary to drink the blood of a young child. He enticed a Creole girl of seven years into a by path, severed her head from her body, and drank the hot

blood as it flowed from her neck. He had the audacity to impart the horrid information to a companion, who promptly communicated it to the authorities. It is reported that Daine faced death with the stoicism of an unrecognized philosopher.

A method much in vogue among the sorcerers of the middle ages, for inflicting punishment upon an obnoxious person, was to christen with the name of the latter an effigy made in wax, and then to practice upon this model such tortures as sticking it through with pins, perforating it with arrows, or melting it before a hot fire. These symbolic torments it was claimed were experienced by the victim whose name the dummy bore. In the 14th century, Marguerite de Belleville, a noted adept in the black art, testified before the authorities that a noble lady, Méline la Henrionne, had sought to obtain a wax effigy with which to torture her husband, and later a charmed image whereby to compass the death of Queen Jeanne of Burgundy. We read that Catherine de Médicis was constantly accompanied by a sorcerer named Cosme Ruggieri, whose office it was to fabricate statuettes in wax. She possessed a complete collection of them, representing princes, cardinals, magistrates and handsome men and women of her time, from whom she fancied she could obtain whatever she desired by addressing these figures.

According to the account of a French newspaper, now before us, there thrives to-day in the city of Paris, a pseudo-scientific charlatan who deserves to rank as a sorcerer with Marguerite de Belleville and Cosme Ruggieri. He is a hypnotizer, who maintains that he has discovered, after long study and experimental efforts, a way to "exteriorize" the senses of an individual and to transfer them from his or her corporeal being to a wax statuette; or rather, to distribute them between the two, so that subject and model shall become one and the same, in endowment of sensation. This transference or diversion of the nervous fluid, he claims to effect by the sheer force of his will, during the hypnotism of the subject. The patient rests thereafter in as profound a state of hypnotic sleep as if in a fit of lethargy. But if, during this period, the effigy which has been indued with sensibility, be pricked in any part, the original resents the pain in the usual manner and at the corresponding spot. Moreover, the statuette may permanently retain,

at the will of the operator, its newly-acquired nervous power. More than this, the Paris magician, profiting by the advance of science since the days of his medieval competitors, claims that he can substitute a photograph in place of the traditional wax image, with equally marvelous phenomena. Thus, a wife with a charmed photograph of her absent husband, need only remind him with a needle-prick that he is lax in his correspondence or in his remittances, and can reward him should he deserve it with an effective kiss on his counterfeit lips. Whether this Paris "professor" maintains that a Fitzsimmons tap over the eyes of the photograph will produce a genuine ecchymosis of the visual organs in the original, does not appear. W. W.

Report on Hypnotism.—The Committee on Hypnotism appointed by the British Medical Association, at the Birmingham meeting, 1890, presented their report after an interval of two years, to the Nottingham meeting, July 26th, 1892. The members of this committee were: Drs. Broadbent, Clouston, Gairdner, Needham (Chairman), Mr. Langley (Cambridge), Drs. Kingsbury, Conolly, Norman, Hack Tuke, Otterson, Wood (Hon. Sec.), and Yellowlees.

The terms of reference are given at the heading of the report.

Report of Committee appointed to investigate the Nature of the Phenomena of Hypnotism; its value as a Therapeutic Agent; and the Propriety of Using it.

The Committee, having completed such investigation of hypnotism as time has permitted, have to report that they have satisfied themselves of the genuineness of the hypnotic state. No phenomena which have come under their observation, however, lend support to the theory of "animal magnetism."

Test experiments which have been carried out by members of the Committee have shown that this condition is attended by mental and physical phenomena, and that these differ widely in different cases.

Among the mental phenomena are altered consciousness, temporary limitation of the will power, increased receptivity of suggestion from without, sometimes to the extent of producing passing delusions, illusions and hallucinations, an exalted condition of the attention, and post-hypnotic suggestions.

Among the physical phenomena are vascular changes (such as flushings of the face and altered pulse rate), deepening of the respirations, increased frequency of deglutition, slight muscular tremors,

inability to control suggested movements, altered muscular sense, anæsthesia, modified power of muscular contraction, catalepsy and rigidity, often intense.

It must, however, be understood that all these mental and physical phenomena are rarely present in any one case.

The Committee takes this opportunity of pointing out that the term hypnotism is somewhat misleading, inasmuch as sleep, as ordinarily understood, is not necessarily present.

The Committee are of opinion that as a therapeutic agent, hypnotism is frequently effective in relieving pain, procuring sleep, and alleviating many functional ailments. As to its permanent efficacy in the treatment of drunkenness, the evidence before the Committee is encouraging, but not conclusive.

Dangers in the use of hypnotism may arise from want of knowledge, carelessness or intentional abuse, or from too continuous repetition of suggestions in unsuitable cases.

The committee are of the opinion that when used for therapeutic purposes, its employment should be confined to qualified medical men, and that under no circumstances should female patients be hypnotized except in the presence of a relative or person of their own sex.

In conclusion, the Committee desire to express their strong disapprobation of public exhibitions of hypnotic phenomena, and hope that some legal restriction will be placed upon them.—*The Journal of Mental Science*, Oct. 1892.

Treatment of the Insane Outside of Asylums.—In almost every asylum superintendent's report a plea is made for the early hospital treatment of the insane, the statement frequently being made that often chances of cure are lost to patients by keeping them on "home treatment" too long before sending them to the asylum. It is further contended that the percentage of cures of asylums would be much increased if patients were sent to asylums at the first appearance of insanity.

No one can doubt that often patients are kept at home when they should be in asylums. It is moreover true that in some cases, chances of cure would be better if patients were sent to the asylum upon the first appearance of insanity. But it is likely that the good effects of early hospital treatment have been not a little overrated by some asylum superintendents. Many of the cases which get into the chronic state before they are brought to the asylum would have gotten into that condition in the asylum had they been brought there early. Generally speaking, it may be said the poorer the patient, the less of home care and comfort there

are for him, the more likely will he be benefited by early asylum treatment. So it is safe to say that where the provisions for home care and medical attendance are inadequate, the patient should be sent to the asylum. Then there are certain forms of insanity which are best treated in the asylum, no matter among what class they occur.

But admitting all this, it must be said that there are a considerable number of insane who are better treated at home than in the wards of an asylum, especially as they are generally patterned with their foreboding "institutional" appearance and régime. It must be remembered that while the asylum has advantages, it has distinct disadvantages or shortcomings, which directly and positively militate against the cure sought for. Take a case of ordinary acute mania in a woman accustomed to a refined home. If taken to the ordinary asylum she will be put in a "noisy ward," containing twenty-five or fifty patients, among whom are epileptics, dements, etc. This association must militate against her in spite of the best care possible, and the most skilled medical attendance. Even when she is better and is placed in a quieter ward there will still be associations that will be detrimental. When she recovers, if she does, and leaves the asylum, she will carry to the end of her days most unhappy recollections of the asylum sojourn.

From the foregoing consideration, it would seem that unpleasant associations with the disturbances and annoyances inseparable from them in a large asylum, are the most serious drawbacks to hospital treatment. Such we believe is the case. In proportion as these baneful associations are minimized, will the objection to hospital treatment for acute curable cases of insanity disappear. If this objection could be made *nil* by eliminating entirely baneful associations, nearly all cases of acute curable insanity could be treated better in than outside a hospital. It is with pleasure we have noted for some few years past a growth of practical steps looking to the carrying out of the idea of individualized treatment of insanity. The cottage plan is now past the experimental stage. Its value is recognized in all of the many asylums which have in part adopted it. The new McLean Asylum, as the plans were explained by Dr. Cowles at the last meeting of the American Medico-Psychological Association, will enable the management of that asylum to

offer the best accommodations to be found in this country for carrying out this idea of individual treatment of insane patients. In this model institution it will be possible to protect patients from annoying and unpleasant associations almost entirely. Unfortunately the cost of such accommodations must necessarily be so high as to be within the reach of only a few. But it would be practicable and feasible for every large State Asylum to maintain at least two pavilions—one for recent cases, the other for convalescents. Even this much would be a great deal gained.

But under existing conditions we must maintain that a considerable number of recent cases of insanity can be better treated outside than in an asylum, provided they can receive proper care and medical attention. To show we are not alone in holding these views, we quote from the address of Dr. Robert Baker, Superintendent of the York Retreat, delivered to the British Medico-Psychological Association:

> It was undoubtedly said and believed by them of old time that all insane persons should be sent to the wards of an asylum, but we, in these latter days, know of a more excellent way; we know, and are sure there are not a few persons, especially young people, in a condition of temporary and curable insanity who can be infinitely better and more wisely treated outside an asylum than in any asylum ward.
>
> Personally, I have always been profoundly impressed with this fact, so much so that my soul has sometimes been saturated with sadness in realizing in all its intensity the inevitable annoyances of asylum life. But I believe it is possible to give all the advantages of hospital treatment and supervision without these annoyances and disadvantages. We all know that there are many private patients who require isolation from home and home surroundings, and special skilled treatment, but whom we dare not take the responsibility of consigning to the wards of an asylum.—*Journal of Mental Science*, Oct. '92.

Stronger words from a higher source it would be scarcely possible to have. T. D.

The Library of the Surgeon-General's Office.—The appropriation for books has been reduced in the Army Appropriation Bill from $10,000 to $6,000. Also in the Sundry Civil Appropriation Bill the usual item for printing the *Index Catalogue*, $12,000 has been omitted. We concur with the *New York Medical Journal* that this action is a mistake, and we hope it will be speedily cor-

rected; otherwise the library will suffer and the work of completing the publication of the *Index Catalogue* will have to be interrupted. The country should consider itself pledged to its completion without unnecessary delay. Cutting off these appropriations is seriously crippling the Surgeon-General's office.

Preliminary Announcement of the special programme of the Sixth Annual Meeting of the National Association of Railway Surgeons, embracing the United States of America, the Dominion of Canada and the Republic of Mexico, to be held at Omaha, Nebraska, the last Wednesday, Thursday and Friday of May, 1893.

General subject: "Injuries of the Cord and its Envelopes Without Fracture of the Spine."

1st, "History," by Dr. Geo. Ross, Chief Surgeon Richmond & Danville R. R., Richmond Va.

2d, "Anatomical Landmarks," by Dr. Jabez N. Jackson, Surgeon Wabash R. R., Kansas City, Mo.

3d, "Physiology of the Spinal Cord," by Dr. A. P. Grinnell, Chief Surgeon Central Vermont R. R., Burlington, Vt.

4th, "Experimental Research," by Dr. Thomas H. Manley, New York, N. Y.

5th, "An Experimental Study of Spinal Myelitis and Meningitis," by Dr. Geo. A. Baxter, Division Surgeon Chattanooga Southern R. R., Chattanooga, Tenn.

6th, "The Clinical Aspects of Spinal Localization," by Dr. Nicholas Senn, Surgeon Chicago, St. Paul & Kansas City R. R., Chicago, Ill.

7th, "Diagnosis from the Stand-point of the Neurologist," by Dr. C. H. Hughes, Consulting Surgeon Missouri Pacific R. R., St. Louis, Mo.

8th, "Pathology and Pathological Anatomy," by Dr. Samuel C. Benedict, Surgeon Richmond & Danville R. R., Athens, Ga.

9th, "Prognosis," by Dr. Samuel S. Thorn, Chief Surgeon Toledo, St. Louis & Kansas City R. R., Toledo, Ohio.

10th, "Treatment," by Dr. W. B. Outten, Chief Surgeon Missouri Pacific R. R., St. Louis, Mo.

11th, "Medico-Legal Aspects," by Judge J. H. Collins, Chief Counsel Baltimore & Ohio R. R., West of the Ohio river, Columbus, Ohio.

12th, "Statistics of the Amount of Money Paid by the

Railroads of the United States, During the Last Ten Years, for Alleged Injuries of the Spine," by Dr. F. K. Ainsworth, Surgeon Southern Pacific R. R., Los Angeles, Cal.

13th, "Clinical Report—1st, From a Medical Aspect, (*a*) Permanent Injuries; (*b*) Alleged Injuries. 2d, From a Legal Aspect, (*a*) Settled With Suit; (*b*) Settled Without Suit; (*c*) Miscellaneous," by Dr. Geo. Chaffee, Surgeon Long Island R. R., Brooklyn, N. Y.

C. W. P. Brock, M. D., Pres., Richmond, Va.; E. R. Lewis, M. D., Sec'y, Kansas City, Mo.

Post-Oöphorectomic Neuroses.—The neuro-gynesiac pendulum continues to swing back and forth. Just now it has stopped at some startling clinical truths, as seen, not with neurological, but with gynecological eyes. The *British Medical Journal* has not failed to observe that:

M. Debove (*Nouv. Arch. d' Obstet. et de Gynec.*, 1892) demonstrated at a recent meeting of the Societe Medicale des Hospitaux that removal of the appendages may do worse than fail to cure hysteria and pelvic pain. It may fail to prevent, and even excite, a neurosis. A woman, aged 38, had her appendages removed in December, 1889. The ovaries were found "diseased." Her period did not recur. On June 28th, 1890, she had a severe nervous attack, which recurred. Debove examined her during one of the seizures. There was right hemianæsthesia with the typical so-called ovarian pain in the iliac fossa. Thus this symptom may exist when no ovary remains. Compression over the region set up an attack, and the pain could be transferred by the application of magnetism. Desuos, in discussing the case, stated that he had twice seen insanity after ovariotomy. Rendu noted that many abdominal operations were followed by the same result. He saw insanity commence in a woman a few days after an operation for artificial anus. The mental disease proved incurable and fatal. Mathieu had seen nymphomania after removal of the ovaries.

Neurology no longer sounds the note of warning and caution. Gynecology herself has taken the alarm, and henceforth women are to be spayed only for real cause and with the considerate caution of a conservative surgery, seeking only the best of two evils, the preventing of an impending fatality through the removal of an important anatomical and physiological appendage.

Oöphorectomies for persisting ovarian hyperæsthesia or congestion and enlargement—purely nervous affections,

or for sequent or associate conditions of the nervous system whose neurotic analogues exist in man, are no longer to be justified. The insane asylums are not to be emptied of their female insane by this talismanic procedure.

The rest and quiet, and freedom from the cares that vex the female mind, secured by this operative procedure are not to be credited to the ovary removed, and some account is to be taken of the neuropathic sequences of this utopian surgery for the sex.

After awhile we shall understand that the functionating of even an imperfect ovary may be of some value to a woman with latent neuropathic tendencies in averting the disaster of neuropathic activity.

The gynecological pendulum has swung to extremes. The os has been slit and served at different epochs for relief of similar affections. The ovaries have been removed without due discrimination and have been treated as if they were almost worthless to woman.

Will gynecology yet join with neurology and the later trend of physiological teaching and say, "Save these appendages of the uterus wherever practicable?" For, while disordered, they may disturb the economy; they are, in their integrity, nevertheless, of value to the maintenance of the neural equilibrium of woman, especially the latently neuropathic.

Apropos of our theme, the *New York Medical Journal*, in an editorial closing the issue of the old year, thus pertinently discusses a kindred subject, which reveals the swing of the pendulum in another direction dangerously near to the personal comfort of the *genus homo*.

The World's Congress on Medical Jurisprudence will meet, during the Exposition Season of 1893, under the auspices of the World's Congress Auxiliary. This Congress will be an exponent of modern forensic medicine and its cognate sciences. Contributions have been promised by leading Criminal Anthropologists, Alienists and Medical Jurists. All Medico-Legal Associations throughout the United States are cordially urged to assist in the work of the Congress by appointing a committee to that end. The officers of this section are: M. D. Ewell, Chairman; J. G. Kiernan, Secretary. Delvina Diou, M. D.; Lester Curtis, M. D.; L. Hektoen, M. D.; A. Lagorio, M. D.; G. F. Lydston, M. D.; H. N. Moyer, M. D.; Harriet C. B. Alexander, M. D., Executive Committee.

Coca Erythroxylon.—Parke, Davis & Co., who were the first to introduce to physicians of this country this interesting drug, and have made a thorough study of its eligible and therapeutically efficient administration, make the following statements concerning its properties:

Few drugs have as interesting and remarkable a history as *Coca Erythroxylon.* As a source of cocaine alone it deserves a conspicuous niche in the herbarium temple of fame.

The coca leaf is the great source of comfort and enjoyment to the Peruvian Indian; it is to him what betel is to the Hindu, kava to the South Sea Islander, and tobacco to the rest of mankind; but its use produces invigorating effects which are not possessed by the other stimulants. From the most ancient times the Peruvians have used this beloved leaf, and they still look upon it with a feeling of superstitious veneration. In the time of the Incas it was sacrificed to the sun, the *Huillac Umu*, or high-priest chewing the leaf during the ceremony; and before the arrival of the Spaniards it was used in Mexico instead of money.

Coca leaves have secured the general recognition in therapeutics which those familiar with their properties have always indicated. Physicians have become convinced by personal observation that the effects attributed to the drug are only what might naturally be expected from the action of so powerful an alkaloid as that contained in the coca leaves.

There are few cases of neurasthenia in which it will not be found useful. Taken after dinner, it serves often to facilitate digestion, and even confirmed dyspeptics find their distressing symptoms relieved by it. It is of especial value in those cases where exhausting mental labor has led to morbid depression of spirits. There is no remedy like it for a fit of the "blues." It relieves the nervous irritability that follows indulgence in excesses of any kind, restoring the capacity for work and giving renewed energy. It acts as a sort of antidote to the effect of opium, alcohol, tobacco or coffee, and judiciously used may even enable one to overcome the morbid craving for any of these stimulants when they have been used to excess.

It is said that public speakers and singers have found themselves in better voice after using coca.

As a remedy for nausea and vomiting from reflex

causes, particularly the vomiting of pregnancy, the cordial proves extremely efficacious. For this purpose it should be taken a few minutes before eating, and the dose repeated in an hour or two afterwards. Gastralgia is frequently relieved by this remedy and nervous headaches often disappear under its use.

It is of service also in cases of asthma, as an aphrodisiac, emmenagogue, antiperiodic, in overcoming drunkenness, in nervous exhaustion, and internally and locally for hemorrhoids. As a restorative of the circulation in cases of enfeebled heart it is invaluable.

This enterprising and professionally much appreciated firm, in this country, and the Mariani Co., in France, have done much to popularize this plant and its preparations with the profession, for which they are entitled to much praise and the merited success as medical caterers, which they have received.

There is an important fact, however, to which neither Messrs. Parke, Davis & Co. nor the Mariani Co. call attention, and that is the idiosyncrasy of certain persons to heart failure under its excessive use in large doses.

Some people certainly display this peculiarity in regard to this plant, at least in this country, as others do towards tobacco, antipyrine, phenacetine, as we have verified by clinical observation, and a word of caution accompanying the laudations of this worthy therapeutic agent would not be amiss. With this, as with so many other valuable therapeutic agents, the physician had best, in the beginning, cautiously feel his way with minimum doses until he shall have learned the fact, and degree of tolerance. We prescribe this drug with satisfaction, but not without caution in particular cases until we have learned its adaptibility.

The Medical Profession and the Politicians.—The *Medical and Surgical Reporter* contains the following, which is in accord with previously uttered views of this journal on the subject:

> The medical profession of Colorado is interested in a battle now going on in the Legislature of that State between the "Keeley Gold Cure" people and one of the imitators of that treatment. Two bills have been introduced, having for their object the establishing of a State hospital for the cure of inebriety. One bill provides for the Keeley treatment, the other for the imitation. It is probable that one of them will be passed.

The readiness with which all legislation inimical to the regular profession can be secured is due to the indifference of doctors to politics. Possibly no body of equal numerical strength could bring more weight to bear in a close campaign than could the medical profession. Politicians work for the interests of the men who control votes. Just as long as doctors wrap themselves in their dignity and refuse to take part in politics they will be walked upon and their interests disregarded by the law makers. If every assault on the interests of the profession were followed by a combined attack of the physicians on the political life of the man who makes it, politicians would come to us and say, "Ask and it shall be given."

The remedy lies in the hands of the physicians. Resolutions passed by societies will do no good, but enthusiastic work against candidates will bring the consideration born of the fear of defeat, which is the ruling force in a politician's life. Eleven English cities have elected physicians as mayors in the past year. In Continental Europe every legislative body contains a large percentage of doctors. Are American physicians of so different a stamp that they cannot follow where their European brother leads? If Virchow can take an active interest in politics and hold an elective office, surely it is not beneath the dignity of an American M. D. to interest himself in the cause of good government and to labor earnestly in its behalf. The "political doctor" is in bad odor, and deservedly so, but a gentleman need not cease to be a gentleman because he desires and works for the defeat of some candidate unworthy of the trust to which he aspires.

The medical profession deserves no sympathy and it gets none, except among its members. With the power to crush its detractors in its hands it prefers to lie down and allow itself to be kicked by any ward politician who gets in the City Council or the Legislature. Heroic treatment of the politician at the polls is the cure. When will it be used?

One cause of the failure of professional influence is the failure of the profession to sustain and guide its members who go into politics. The medical profession is publicly known for its pulling-down propensities when a brother is up politically. It transcends all other organizations in the fostering and indulging of petty professional jealousy.

Politicians, Touch not the Asylums.—(An open letter to all new Boards of Management of Insane Hospitals.) The following letter was addressed to a recently appointed President of a Board of Directors of a neighboring asylum. It expresses our unalterable sentiments respecting changes in these institutions for political cause only. We hope and pray that the day may speedily

come when the push and pull of politics will find it politic, through pressure of public sentiment, to let these institutions sacredly alone, free from the polluting and perverting touch of the spoils system:

DEAR SIR:—Having learned that a new Board of Management has control of the State Asylum, at Topeka, and knowing, also, how prone new boards are to make changes, I write you this brief note to protest in the name of our common humanity, and in behalf of that charity we owe afflicted fellows (comrades fallen mentally maimed in the battle of life) against any change in the management of your excellent hospital for the insane, whereby an inexperienced medical head might be substituted for the present able and specially experienced superintendent.

The treatment and care of the insane is not a matter of common medical experience or general medical knowledge. They must be learned by familiar contact with the insane, and faithful clinical study of their malady. "We must live with the insane," as the great Esquirol justly said, "to understand them," and, consequently, to know how to treat them. A doctor taken from the ordinary ranks of medicine, without previous asylum experience, is not competent, as a rule, to do the insane justice.

Insanity falls alike on all. The next victim to this unfortunate malady may be you or yours, or me or mine. Who knows, but the Omnipotent, Omniscient One? "Whatsoever ye would that others should do unto you, do ye even so to them," for, "with what measure ye mete, it may be meted unto you again."

As a community sows in the management and treatment of its insane, that shall it also reap.

The most skillful management, care and treatment of these unfortunates, is political wisdom and moral wisdom, for it is economy to the State in rapid cures in lieu of chronic insane paupers, and it is the practice of true charity, and the greatest of the virtues is charity An insane head of a family speedily restored to mental health through skilled treatment becomes again a tax-payer and supporter of his family, while the man whom ignorance fails to cure, becomes a perpetual burden upon the state.

Let justice be done in the premises though the heavens fall. No party can afford to weaken the influence for good of these greatest of human benefactors, the State Asylum for the Insane, by substituting medical mediocrity for the highest attainable medical skill and experience in their management. The management of your asylum for the insane is the measure of your civilization and gauge of your Christian charity.

I have been through this mill, both as manager and superintendent, and have some conception of what ought to be grist, and how the mill should be managed. The insane and their care are not legitimate party spoils. The hospital for the insane, like the military hospital in war,

should stand out of harm's way, and be sheltered by the flag that comrades respect, and hands off from all belligerents. Do not disturb your hospitals for the insane, except for cause and to better their inmates. The sons and daughters, wives and sweethearts, husbands, fathers, mothers—the best beloved and nearest to the hearts of many of your best people, are sheltered within their walls, or ought to be sheltered and protected there, from the consequences of medical inexperience.

A political party that cripples the management of its eleemosynary institutions for the sake of spoils should die the death of the unrighteous.

Yours very truly,

C. H. HUGHES, M. D.,

Besides the interests of the patients, which is the first consideration, there is the interests of the public to subserve, and public interest is certainly damaged by the premature discharge of asylum patients through incompetency and inexperience; the lives and comfort of the people being put in jeopardy through premature discharges of patients as cured who are not well enough to be at large.

The public is every now and then startled by violences and outrages done by those prematurely discharged from city asylums by incompetent "push" and "pull" physicians who know more of politics than they do of psychiatry.

Germany and the Pan-American Congress.—Some time ago Dr. Charles H. Mastin invited Dr. Czerny, of Heidelberg, to take part in the coming Pan-American Medical Congress. The latter thereupon wrote an open letter to the *Deutsche Medicinische Wochenschrift* wherein he expresses a hope that matters could be so arranged that European physicians would be enabled to attend the Pan-American and International Congresses. But, he remarks, he does not think that the physicians of Germany can take part in the proceedings of the Pan-American Medical Congress, if they are not permitted to read their papers in German. He also suggests that a resolution should be passed which would enable German physicians to visit the Congress.

In reply to this, Dr. C. A. L. Reed, the Secretary-General of the Pan-American Congress, states that this Congress in no way intends nor will it interfere with that to be held in Rome, and, furthermore, that there will be ample time afforded to reach the latter. It is

also understood that communications and remarks made in languages other than the official, should be submitted in one of the latter for publication and that whilst not explicitly stated, the Executive Committee will no doubt take the opportunity to do so by incorporating it in the By-Laws. Every linguistic privilege will be accorded all European *confréres* who may attend the Pan-American Congress, and it is hoped that many will do so, as they will be greeted with a cordial American welcome.

A Remarkable Literary Announcement.—Doubtless the most surprising, and perhaps the most important, literary announcement ever made to American book-buyers is Alden's edition of the Encyclopedia Britannica for $20.00. It is the genuine, unabridged, cloth-bound work, in large type, including over 20,500 pages and more than 10,000 illustrations and 200 maps. The full set is now ready for delivery. And even this is not all: If you can't spare $20.00 at one time, by paying only $1.00 extra you may, through the Encyclopedia Britannica Coöperative Club, get the work on installment payments of only five cents a day. Surely, these most extraordinary terms ought to place this greatest of Encyclopedias (a library in itself *means* something when applied to it) in every home. You can get specimen pages, with full particulars, *free*, or a 128-page Catalogue of choice books in every department of literature, besides, for a 2-cent stamp, by addressing John B. Alden, Publisher, 57 Rose Street, New York.

If you want this great work, send us $23.00 and a new subscription, and we will have it sent to you with the ALIENIST AND NEUROLOGIST, subscription paid, for one year. If you are an old subscriber send us $24.00 and we will do the same.

Special Hospitals and Asylums.—The growing demand for extensive classification, either in separate institutions or in distinct and separate departments of the same institution, for the various forms of mental disease, is in keeping with the rapidly growing tendency to specialism in all departments of medicine—indeed, we might say, in the various occupations and callings in life.

Already we have special institutions for idiots, criminal insane, chronic insane and dipsomaniacs. Ohio has

about completed an institution for epileptics and New York is about to build one. Doubtless, we will before long have institutions for acute insane. In some few of our modern asylums (notably the St. Lawrence, at Ogdensburg, N. Y.), all these classifications are possible in one institution. We are glad to see the activity in this direction, for specialism in medicine has come to stay.

With the old theory that the superintendent must be personally responsible for each patient under his care, and treat or directly oversee his medical treatment, the asylum of 1000, or even of 500, patients was a mistake, and is to day more than ever, unless it be an asylum for chronics. But if each large asylum contained several distinct departments represented by as many buildings, if possible, for each of which a medical man was directly responsible, the difficulty might be largely overcome. This plan is, indeed, in successful operation to-day at Meerenberg Asylum, an institution presided over by Dr. van Persijn, one of Europe's foremost alienists. But to quote Dr. van Persijn's own words:

> As the asylum has grown, so the number of medical officers has increased, and the aim has always been to make each medical man as much as possible, responsible for a certain section of the asylum. Meerenberg, therefore, may be said, at the present moment to consist of six small asylums, at the head of each of which there is a medical man, who has an independent sphere of activity.—*Journal Mental Science.*

The old argument that evils quickly come when there is divided responsibility need have no great weight. Armies, corporations and large companies have this divided responsibility and yet are eminently successful.

T. D.

Hospital for Criminal Insane in Pennsylvania.—The Lunacy Committee are making an effort to get the Legislature to appropriate funds to build an asylum or hospital for the criminal insane of Pennsylvania, of whom there are about 250 distributed through the various State hospitals—one hospital alone containing sixty. It is to be hoped that the Harrisburg legislators, who for several years have turned deaf ears to the Committee's appeal for this special class, will this winter be moved to act in the matter.

Three States, Michigan, New York and Illinois already have special asylums for the criminal insane. T. D.

Society of Electropathy.—The French Society of Electropathy is about to manage a yearly Exhibition, which for 1893, took place on Friday and Saturday of Easter Week.

This exhibition will be held in the "Laboratoire de physique de la Faculté de Médecine" in Paris, and will include the instruments employed in electropathy, as well as demonstrations concerning electric methods, drawings, etc.

The Organizing Committee is represented by Prof. Gariel, Drs. Tripier, Gautier, Vogt, and M. Gaiffe, constructor.

Doctors and constructors are invited to call upon or address Dr. Vogt, 28, rue Saint-Lazare, Paris, for information.

Castration for Melancholia.—The operation of castrating males for nervous and mental disorders is at last put upon a firm clinical basis. Oöphorectomy came from the South, and thence diffused its genial and unsexualizing influence over the East and North, but testectomy, if we may coin a word on so great an occasion, comes from the West. It was in 1891 that the Eastern Michigan Asylum published an annual report containing the history of a case in which the operation of castration was done for the relief of a "sickening neuralgia" of the testicles. The patient had not only neuralgia, but melancholia. One of the testicles was removed, and the testicle was found diseased, but not, as we understand the description, cystic or suppurating. The patient improved, but was not cured, and so, later, the second testicle was removed. The medical superintendent, Dr. Burr, now reports that the cure is complete. It is interesting to notice that both testicles had to be removed, just as, in the opposite sex, we are told that both ovaries ought to go in order to get the best results.

Here we have a case of chronic neuralgia and melancholia, in a man of fifty-seven, cured by castration. Neuralgia is very common, and so is depression of spirits. There is a fruitful field, therefore, in which ambitious andrologists may work. Shall we not soon begin to get reports of "my second series of one thousand castrations, with hints on technique?"

Hypnotism Again.—Two monographs by H. Babinski, of Paris, a pupil and disciple of Charcot, are of some

interest, although they bring out nothing especially new.

"The objective signs of the hypnotic state—neuro-muscular hyperexcitability, cataleptic plasticity, musculo-cutaneous hyperexcitability—are discussed, and the characteristics distinguishing them from the simulated phenomena emphasized." "Grand hypnotisme" exhibits Charcot's three classical stages of lethargy, catalepsy and somnambulism. In "petit hypnotisme," one or more of these stages is deficient or absent. Since the Nancy School show no objective signs, Babinski asks what guarantee have we that the hypnotism is real? He then goes on to show the great resemblance between hysteria and hypnotism. As to therapeutical value, he believes it is almost confined to relieving hysterical states or symptoms.

M. Ballet writes to show that the dangers from medico-legal complications arising out of hypnotism have been greatly over-estimated. "*La suggestion est daus tout;*" but this is not hypnotism, and we must draw the line between hypnotism and suggestion.

T. D.

Some Funny Commendations.—Our proprietary friends have some queer ways of commending their preparations to the profession, as witness, the following of Elixir Nutrans, which contains saw palmetto (*Serenoa serrulata*):

Saw palmetto has a special action upon the glands of the reproductive system, as mammæ, ovaries, prostate, testes, etc., tending to *increase their functional activity and size; best effect produced upon prostate*, etc. Specially useful in atrophy of testes, or uterus, and in all prostatic troubles.

The Blot upon the Brain.—We are glad to learn from the distinguished editor, Dr. W. W. Ireland, that he has made arrangements with publishers in both Scotland and America, to publish a new and revised edition of "The Blot upon the Brain," sometime during the coming fall.

Fuller's Model Brain Sections.—We have derived much pleasure and facilitated our class instruction very much, at the Barnes Medical College, by means of those model casts of sections of the brain made under the direction of our esteemed anatomical friend of Grand

Rapids. A beautifully executed model is one which we hold in our hand while we write. It represents, true to nature, the basal ganglia and contiguous anatomical points, the fifth and third, and section of lateral ventricles, the corpora quadrigemina, etc., and on the opposite side, the mesencephalon, with crura, pons, related nerves, tractus opticus, medulla and its relations and terminations.

These models of Dr. Fuller are a credit to American anatomical ingenuity and skill. They ought to be in every American school of anatomical instruction. There is no need of going abroad for casts of brain sections while such creditable work is done in this country.

Medical Editors' Association.—We could not in more fitting terms express our interest in this Association than in the feeling words of Dr. Culbertson of the *A. M. A. Journal:*

There are unmistakable signs of awakening, to a new life, that will give new form and direction to the sleeping powers of the medical press. There are over a hundred and twenty medical journals in the regular profession, going out weekly, monthly and quarterly, to the sixty or seventy thousand physicians in this country. If all these journals were organized, and their efforts concentrated, they would be a great power in medical science. It is this failure of organization that gives discordant tone and divided interests to the medical press. While many journals have rival interests and local contests, they should all be united on general principles, and join in efforts for the common good of each. The officers of this Association have resolved to make a great effort at the coming annual meeting in Milwaukee to perfect the organization and have every medical journal in the United States represented. Also to create a renewed interest in medical journalism, making every journal and its editors feel that its annual meetings are of a personal value and importance to each one.

Mr. Ernest Hart, the famous editor of the *British Medical Journal,* is expected to deliver an address. This announcement ought to lend new interest to the coming meeting, as our distinguished British *confrére* has a warm place in the *heart* of the journalistic profession on this side of the great water.

The Respiratory Center in the Calamus Scriptorius.—After evisceration in the case of a child of a primipara instrumentally delivered, all the cranial contents, except the peduncles of the cerebellum and the pons, being removed, the medulla remaining intact,

it was found that the child took deep regular inspirations, six to the minute, for fifteen minutes. The hand and leg reflexes were present, but no spontaneous movements of the extremities took place. Though the medulla was cut across one centimeter above the point of the calamus scriptorius, no change occurred in the respiratory or other reflexes, while after section one centimeter deeper, just at the lower end of the calamus scriptorius, both respiration and limb reflexes ceased.—Prof. Kehm (*Med. Klin. Woch.*)

Mathematical Prodigies.—The talents of Zerah Colburn have been rivaled, if not surpassed, by two European "calculating boys," one of them a Swede, the other a Hungarian. But the present champion of mental arithmetic is Elizabeth Preston Davis, an American lady, whose memory for figures enables her to dispense with logarithms, and who discovered an error in La Place's tables, that has puzzled astronomers for years.

THE PAN-AMERICAN MEDICAL CONGRESS.

Office of the SECRETARY-GENERAL,
311 ELM STREET, CINCINNATI, April 2, 1893.

The Executive Committee of the First Pan-American Medical Congress promulgates the following information:

1. The First Pan-American Medical Congress will be opened under the Presidency of Prof. William Pepper, M. D., LL. D., President of the University of Pennsylvania, at Washington, D. C., September 5th, and will adjourn September 8, 1893.

2. The Countries officially participating in the Congress are restricted to Argentine Republic, Bolivia, Brazil, British North America, British West Indies (including B. Honduras), Chile, Dominican Republic, Honduras (Sp.), Mexico, Nicaragua, Paraguay, Peru, Salvador, Republic of Columbia, Republic of Costa Rica, Ecuador, Guatemala, Haiti, Kingdom of Hawaii, Spanish West Indies, United States, Uruguay, Venezuela, Danish, Dutch and French West Indies.

Distinguished representatives of the profession from other countries are expected to be present as guests and to participate in the proceedings.

3. The general sessions will be limited in number, one for opening and one for closing the Congress, being all that will be held unless some necessity arises for a change in this particular. This arrangement will permit members to employ all of the time in the scientific work of the sections, which are as follows:

(1) General Medicine, (2) General Surgery, (3) Military Medicine and Surgery, (4) Obstetrics, (5) Gynæcology and Abdominal Surgery, (6) Therapeutics, (7) Anatomy, (8) Physiology, (9) Diseases of Children, (10) Pathology, (11) Ophthalmology, (12) Laryngology and Rhinology, (13) Otology, (14) Dermatology and Syphilography, (15) General Hygiene and Demography, (16) Marine Hygiene and Quarantine, (17) Orthopædic Surgery, (18) Diseases of the Mind and Nervous System, (19) Oral and Dental Surgery, (20) Medical Pedagogics, (21) Medical Jurisprudence, (22) Railway Surgery.

The evenings will be devoted entirely to social features, the detailed announcements of which will be made by the Committee of Arrangements.

4. Membership is limited to members of the medical profession of the Western Hemisphere, including the West Indies and Hawaii, who shall either register at the meeting or shall serve the Congress in the capacity of foreign officers. No membership fee will be accepted from any member residing outside the United States. The membership fee for residents of the United States is ten dollars ($10.00). All registered members will receive a copy of the Transactions. Prominent students of the allied sciences will be cordially received as guests and as contributors to the proceedings upon invitation by the Executive Presidents of sections. Ladies' tickets will be issued upon application to registered members only and will entitle the holders to reduced fare and to admission to all entertainments. Physicians of the United States should register at once, by remitting $10.00 to Dr. A. M. Owen, Treasurer, Evansville, Indiana.

5. Papers are solicited, the hope being entertained that the programme will be largely taken up with contributions from outside the United States. Papers may be read in any language, but a copy must be furnished for publication in either Spanish, Portuguese, French or English, and must not occupy more than twenty minutes in reading. An abstract not exceeding six hundred words, must be furnished the Secretary-General in one of the above four languages, by not later than July 10th. Abstracts will then be translated by the Literary Bureau into the three remaining languages, and will be published in book form before the meeting of the Congress.

6. The Congress of the United States has adopted a joint resolution whereby all the Governments of the Western Hemisphere have been invited by the President to send delegates to the First Pan-American Medical Congress, and has appropriated a liberal sum for the purposes of entertainment.

7. The reduced fare offered by all transportation companies on the occasion of the World's Columbian Exposition to be held in Chicago, will be open to all persons attending the Pan-American Medical Congress. The Committee of Arrangements will endeavor to secure still greater reduction to members traveling between Chicago and Washington, and an effort will be made to

arrange either excursions or circular tours for those who may desire to visit the great universities of the United States. All such arrangements are open to subsequent announcement.

8. By arrangement with the Committee at Rome, the date of the Eleventh International Medical Congress has been so appointed that those who attend the meeting of the Pan-American Medical Congress may subsequently attend the former. The Pan-American Medical Congress will adjourn on the afternoon of September 8th; a steamship will sail from New York on the following day, going by the Azores and Gibraltar and enabling the tourist to reach Rome on the morning of September 20th, where the Eleventh International Congress will be opened on the afternoon of September 24th. It will thus be seen at a glance, that in the period usually alloted to a summer vacation, the medical tourist may spend a week at the World's Columbian Exposition, the next week at the Pan-American Medical Congress, the next week-and-a-half with delightful companions in a voyage to the Mediterranean, the next few days in witnessing the sights of Rome, and the following week at the Eleventh International Medical Congress. Special reduced rates for members and their families are given both ways on the trip to Rome, particulars of which will be furnished on application to the Secretary-General, 311 Elm Street, Cincinnati, Ohio, who is also a member of the American Committee of the Eleventh International Congress.

9. The best possible arrangements will be made with the excellent hotels with which the National Capital is abundantly supplied. The Committee of Arrangements will do its utmost to secure desirable rates and locations for members and their families. The headquarters of the Committee of Arrangements is at the Arlington Hotel, where communications may be addressed either to Dr. Samuel S. Adams, Chairman, or Dr. J. R. Wellington, Secretary.

10. Copies of the Official Announcement of the Congress, containing the Regulations and the names of all officers and committeemen of the General Congress and of the various sections, and residing in the various countries, may be obtained upon application to the Secretary-General, or to either of the members of the International Executive Committee, as follows:

Argentine Republic, Dr. Pedro Lagleyze, Calle Artes

46, Buenos Aires; Bolivia, Dr. Emilio di Tomassi, Calle Ayacucho 26, La Paz; British West Indies, Dr. James A. de Wolf, Port of Spain; British North America, Dr. James F. W. Ross, 481 Sherborne St., Toronto; Chili, Dr. Moises Amaral, Facultad de Medicina, Santiago; Costa Rica, Dr. Daniel Nuñez, San José; Dominican Republic, Dr. Julio Leon, Santo Domingo; Eucador, Dr. Ricardo Cucalon, Guayaquil; Guatemala, Dr. José Monteros, Avenida Sur No 8, Guatemala City; Haiti, Dr. T. Lamothe, Rue du Centre, Port au Prince; Hawaii, Dr. John A. McGrew, Honolulu; Honduras (Spanish), Dr. Geo. Bernhardt, Tegucigalpa; Mexico, Dr. Tomás Noriega, Hospital de Jesus, Mexico; Nicaragua, Dr. J. I. Urtecho, Calle Real, Granada; Paraguay, ——; Peru, Dr. Manuel C. Barrios, Facultad de Medicina, Lima; Republic of Columbia, Dr. P. M. Ibañez, Calle 5a Número 99, Bogota; Salvador, Dr. David J. Guzman, San Salvador; Spanish West Indies, Dr. Juan Santos Fernandez, Calle Reina No. 92, Havana; United States of America, Dr. A. Vander Veer, 28 Eagle Street, Albany, N. Y.; United States of Brazil, Dr. Carlos Costa, Rua Largo da Misericordia 7, Rio de Janeiro; Uruguay, Dr. Jacinto de Leon, Calle de Florida No. 65, Montevideo; Venezuela, Dr. Elias Rodriguez, Caracus.

By the Executive Committee,

CHARLES A. L. REED,
Secretary-General.

NEW BY-LAWS.

LANGUAGES.—By-Law IX. Papers may be read in any language providing that authors of the same shall furnish the Secretary-General with an abstract not exceeding six hundred words in length in either of the official languages (English, Spanish, French or Portuguese) by not later than July 10, 1893, and providing, further, that a copy of each such paper shall be furnished in either of the official languages, at or before the time of the meeting, to the Secretary of the section before which the same shall be read. Remarks upon papers may be made in any language providing that members making such remarks shall furnish a copy of the same in either of the official languages before the adjournment of the session.

PUBLICATION.—By-Law X. All papers read either in

full or by title shall be immediately submitted for publication in the Transactions (Special Regulation 3), but authors may retain copies and publish the same at their pleasure after the adjournment of the Congress.

CONSTITUENT ORGANIZATIONS.—By-Law XI. All medical, dental and pharmaceutical organizations the titles of which have been transmitted with approval to the Committee on Organization or which may hereafter be transmitted with approval to the Executive Committee by any member of the International Executive Committee, each for his own country, shall be subject to election by the Executive Committee approved by the President, as constituent bodies of the first Pan-American Medical Congress, and each organization thus constituted shall have the right to designate as delegates all of its members attending the Congress, but no such organization shall meet at the time and place of meeting of the Congress as a distinct body, providing that the Secretary of each such constituent body shall furnish a list of officers and a statement of the number of members of his respective organization to the Secretary-General not later than sixty days before the meeting of the Congress, and shall forward a list of delegates chosen to reach the Secretary-General before the opening of the Congress.

By the Executive Committee, February 22, 1893.

SECTION ON MEDICAL PEDAGOGIES.

The Pedagogic Section will devote its attention especially to the History of the development of Medical Education in America.

In the papers presented by leading teachers recent advances in methods of instruction will be considered.

The *art of teaching*, which is regarded as a study of great interest in other branches of learning, has received hitherto but little attention from the medical profession.

The Section in Medical Pedagogics will therefore be made a prominent feature of the Congress, and it is hoped that those interested in Medical Education will co-operate in the work of this section by being present and by actively engaging in the discussion of subjects presented.

Any inquiries or communications may be made through the secretaries undersigned.

J. Collins Warren, M. D.,
Executive President,
Boston, Mass.

Charles L. Scudder, M. D.,
English Speaking Sec'y,
Boston, Mass.

Wm. T. Hutchinson, M. D.,
Spanish Speaking Sec'y, Providence, R. I.

THE GOVERNMENT OF VENEZUELA AND THE PAN-AMERICAN MEDICAL CONGRESS.

Señor P. Ezequiel Rojas, the Venezuelean Minister of Foreign Affairs, has forwarded on behalf of his Government, through the U. S. *Chargé d'Affaires*, at Caracas, a formal acceptance of the invitation issued pursuant to the joint resolution of the United States Congress to the various governments of the Western Hemisphere, to send official delegates to the Pan-American Medical Congress. The selection of delegates has not yet been made, but the names will be forwarded at the earliest possible moment.

SECTION OF GENERAL MEDICINE.

This unique assemblage promises to be one of the most important events that has occurred in the history of medicine in the Americas. Its success is assured by the large number of valuable papers already promised. The Section on General Medicine, which is one of the most important that has been created, bids fair to be one of the most successful in the entire Congress; and already many valuable contributions are in process of preparation, and will be read at the meeting in September. It is hoped, with the hearty co-operation of all physicians living not only in North but also in South and Central America, that the work in this section will be memorable; and each physician living on this continent is requested to join this most important section, and to prepare a contribution to be read before the body. It is especially requested that those intending to join this section or to read papers, shall at once send their names,

with titles of papers, to the Secretary, Dr. Judson Daland, No. 319 South Eighteenth Street, Philadelphia, Pa., so that they may be noted on the calendar and given their appropriate places.

SECTION ON LARYNGOLOGY AND RHINOLOGY.

The Section on Laryngology and Rhinology is now thoroughly organized with Secretaries in all the countries of South America as well as in the United States and Canada.

The President, Dr. E. Fletcher Ingals, of Chicago, is making a thorough canvass to secure a large number of good papers for the section, and aided as he will be by the able Secretaries Drs. Murray and y Alonso, and the corps of Honorary Presidents, he feels assured of the success of this department of the Congress. The Honorary Presidents are: Dr. Harrison Allen, Philadelphia; Dr. Franke H. Bosworth, New York; Dr. J. Solis Cohen, Philadelphia; Dr. D. Bryson Delavan, New York; Dr. J. F. Dixon, Portland, Oregon; Dr. Stephen Dodge, Halifax, Nova Scotia; Dr. W. C. Glasgow, St. Louis; Dr. Frederick I. Knight, Boston; Dr. Geo. M. Lefferts, New York; Dr. Alvaro Ledan, Villa Clara, Cuba; Dr. John N. Mackenzie, Baltimore; Dr. David Matto, Lima, Peru; Dr. P. Emelio Petit, Santiago, Chili; Dr. John O. Roe, Rochester, N. Y.; Dr. Federico Semeleder, City of Mexico, Mexico; Dr. Chas. E. Sajous, Paris, France.

The Secretaries for Foreign Countries are: Dr. Ovejero [Piedad 22], Buenos Ayres, Argentine Republic; Dr. H. Guedes de Mello, Rio de Janeiro, U. S. of Brazil; Dr. G. W. Major, Montreal, Canada; Dr. Felix Campuzano [Virtudes 33], Havana, Cuba; Dr. Luis Fonnegra [Calle 10, Número 263], Bogota, Republic of Columbia; Dr. Fabricio Uribe, Guatemala City, Guatemala; Dr. Henri Goulden McGrew, Honolulu, Hawaii; Dr. Angel Gavino [Cocheros 15], City of Mexico, Mexico; Dr. J. Midence, Leon, Nicaragua; Dr. Eugenios Cassanello [San José 119], Montevideo, Uruguay; Dr. Napoleón F. Cordero, Merida Venezuela.

All physicians interested in this section are requested to correspond with the Secretaries for the United States.

DR. J. MARON y ALONSO, (Spanish Speaking), Las Vegas, N. M.

DR. T. MORRIS MURRAY, (English Speaking), Washington, D. C.

GERMANY AND THE PAN-AMERICAN MEDICAL CONGRESS.

An Open Letter from Professor Czerny, of Heidelberg, and Reply by Secretary-General Reed.

[Translated from *Deutsche Medicinische Wochenschrift*, January 12th, 1893, page 47.]

An Open Letter.

To Claudius H. Mastin, M. D., LL. D., Mobile, Ala., President of the American Surgical Association, in reference to the Pan-American Medical Congress.

Honored Sir and Colleague:—You were kind enough to extend to me, December 3rd, 1892, a personal invitation to attend the Pan-American Medical Congress, to be held at Washington, September 5th to 8th, 1893. According to the preliminary announcement, and to your communications, the Congress, in connection with the Columbian Exposition at Chicago, will offer so many attractions that I exceedingly regret not to be able to accept so amiable an invitation extended to me by one of the most prominent members of the body of American physicians.

As the reasons which prevent me from attending might be of interest to the German physicians, you will certainly pardon my desire to make these reasons more generally known in this manner.

At the first glance one might have been impressed with the idea that the Pan-American Congress was intended to be a rival to the long-prepared International Medical Congress, which is to be held in Rome, from September 24 to October 1st, 1893. However, as at the former international expositions, almost always contemporary medical and scientific congresses took place, it appears but just that the American physicians should also avail themselves of the opportunity of meeting on their own continent. But since the physicians of all civilized countries are united in the humane endeavor to rather mitigate than to increase difficulties between nations and continents, where such exist, I therefore, think any intention to injure the International Congress by the Pan-American, must be entirely excluded.

Perhaps the meeting of the International Congress might be postponed eight days, which, for several reasons, would be more desirable. With earnest intentions

and favorable weather it ought to be possible to make the trip, with the modern fast steamers, from Washington to Rome, from September 9th to September 23d. *It would not be a bad idea if those members who desire to make the journey, would do so jointly, directly from Washington to Rome, on a steamer chartered expressly for that purpose*, in order to bring the greetings of the rising capital of the promising West to the old Metropolis of European civilization.

A more serious consideration to visit the Pan-American Congress, is entertained by me regarding the question of languages. In section 9th of your programme it says: "The languages of the Congress shall be Spanish, French, Portuguese and English." The German language is probably excluded because it is nowhere official language in America. If this consideration should have prevailed, then the Dutch and Danish languages ought to have been permitted, since these languages are in official use in America. Be this as it may, *I do not think that the physicians of Germany can take part in the proceedings of the Pan-American Medical Congress, if they are not permitted to read their papers in German*, while any other language but the English is admitted at the Congress. It must be remembered that also at the International Congress "Remarks are permitted in any other language, if any of the members are willing to translate them into one of the four official languages."

I shall not mention the work done continually for the science of medicine in the German language, but I desire to refer to the great number of prominent American physicians who have received the best part of their education in German schools; and to the numerous German physicians who practice with success in America, and who have added so much to the great reputation in which American medical literature is at present held in the whole world. Indeed, I am inclined to believe that North and South American physicians will frequently be able to communicate with each other in the German language, learned by them in our universities. If I am not mistaken in this, I certainly think that the Executive Committee of the Pan-American Medical Congress should pass a resolution which would enable German physicians to visit the Congress, provided a participation on our part is at all desired.

I shall be exceedingly gratified if my suggestions should find favor on the other side of the ocean; and if I should be thus enabled, dear Sir and colleague, to personally enter into friendly relations with you in Washington.

With best wishes and the compliments of the season, I am,

Yours most respectfully,

DR. CZERNY,

Honorary Member of the American Surgical Association.

HEIDELBERG, December 28th, 1892.

(REPLY.)

THE PAN-AMERICAN MEDICAL CONGRESS,
Office of the Secretary-General,
311 Elm St., Cincinnati, Feb. 14, 1893.

PROFESSOR V. CZERNY, Heidelberg.

My dear Doctor:—My distinguished colleague, Dr. C. H. Mastin, has referred to me for official reply your open letter addressed to him and published in the *Deutsche Medicinesche Wochenschrift,* for January 12th of this year.

A careful reading of your valued communication leads me to the conclusion, that you, in common with other distinguished German *savants*, hestitate in accepting an invitation to attend the Pan-American Medical Congress, (1) because the German profession is not officially invited by the Executive Committee to become a constituent part of the Congress; (2) because the German language is not one of the official languages of the Congress, and (3) because a general participation on the part of yourself and *confréres* might be construed into disloyalty to the International Medical Congress which is to meet in Rome in the same month.

In reply I beg to state, that the occasion for holding a medical Congress in the United States in 1893, is the fact that a large number of physicians will be in this country in attendance upon the World's Columbian Exposition. This attendance will be largely, although

not by any means exclusively, from the countries of the Western Hemisphere. It would have been very desirable indeed, to have arranged an organization which would have embraced all the countries of the world. The medical profession of the United States, however, acknowledges allegiance to the World's International Congress which is to meet in Rome. To have attempted an organization in Germany or any other European countries in the interest of the American meeting would have been in violation of our loyalty to the International Congress, while an official invitation to the government and medical societies of Germany and other European countries to send delegates to the Washington meeting would have been almost equally inimical to the interests of the Rome Congress. It was therefore resolved that the organization should be limited to the American countries and that while it was desirable to secure the attendance of our distinguished *confréres* from Europe as guests, invitations to that end should be strictly personal in character, and should be issued by the general officers and presidents of sections, at their discretion.

The languages chiefly spoken by the peoples of the various constituent countries of the Congress are Spanish, Portuguese, and English, and these were accordingly selected by the Committee as the official languages of the Congress. French, which is the language of important colonies and communities, was subsequently added, at the instance of our *confréres* in Brazil, who employ it largely in scientific communications, as, indeed, do a large proportion of the physicians of both the English and Spanish-speaking countries. Danish and Dutch are not included, simply for the reason that it is extremely, indeed practically impossible, to deal with them satisfactorily in a literary way in this country. It was hoped that delegates from countries and colonies speaking other than Spanish, Portuguese, English and French would furnish their remarks on papers in one of the official languages. This was so thoroughly understood by the committee and has become such a well-established usage at international congresses, that it was not deemed necessary to state it explicitly; but I shall communicate the suggestion which you kindly make to the Executive Committee, when I have no doubt, it will be made definite in the By-Laws.

As early as December, 1891, I opened correspondence by telegraph with the President of the XI. International Congress, and subsequently with Professor Maragliano, of Genoa, the Secretary-General, asking that the date of the Rome meeting be arranged so as to permit us to send delegates from Washington. The date of the International Congress was accordingly changed from the 17th to the 24th of September, which will give us sixteen days in which to go from Washington to Rome. Arrangements were begun in February of last year for a special sailing of a steamer September 9th, direct to Italy, by way of the Azores and Gibraltar, to take those desiring to attend the Rome meeting, a special reduced rate being accorded for the occasion. My present correspondence indicates that a large number will avail themselves of this privilege. It is highly gratifying to note that the expediency of this plan has occurred quite independently to one so conversant with affairs as yourself.

Permit me to say in conclusion that our European *confréres* who may honor the Pan-American Medical Congress with their presence will be accorded every linguistic privilege, that arrangements have already been made for their return to Italy in time for the International Congress, and that in the event of their coming they will be greeted with a most cordial American welcome. Very sincerely yours,

CHARLES A. L. REED,

Approved: Secretary-General P. A. M. C.

WILLIAM PEPPER, President.

CLAUDIUS H. MASTIN, Member of the Board of Trustees.

AMERICAN MEDICAL ASSOCIATION.

SECTION OF NEUROLOGY AND MEDICAL JURISPRUDENCE.—Preliminary programme of the Annual Meeting, to be held at Milwaukee, Wisconsin, June 6th, 7th, 8th and 9th, 1893. Officers of the section: Charles K. Mills, M. D., 1909 Chestnut St., Philadelphia, Pa., Chairman; James G. Kiernan, M. D., 834 Opera House Block, Chicago, Illinois, Secretary. Executive Committee: O. Everts, M. D., Cincinnati, Ohio; H. N. Moyer, M. D., Chicago, Illinois; Justin E. Emerson, M. D., Detroit, Michigan.

The American Medical Association will meet in Milwaukee, Wisconsin, June 6th, 7th, 8th and 9th, 1893. A preliminary programme of the Section of Neurology and Medical Jurisprudence has been prepared and is appended, and it will be seen that the meeting promises to be one of great interest. The first session will be held on the afternoon of June 6th. Two sessions will be held June 7th and 8th, one in the morning and one in the afternoon. The last session will be held on the morning of June 9th. Papers will be accepted for the final programme until May 1st, but not later, as all titles must be sent to the Chairman or Secretary by this date in order to allow sufficient time for the preparation of the programmes for the meeting of the entire Association. If you have not yet indicated your intention to take part, you are earnestly requested to contribute a paper, to present cases, or to exhibit gross or microscopical specimens. It is desired by many of the members of the Section to have a dinner on one of the evenings of the meetings, the subscription to which will be three dollars. If you favor this proposition, please notify the Chairman or Secretary of your willingness to subscribe.

Dr. William Osler, Baltimore, Md., "Anorexia Nervosa." Dr. Irving C. Rosse, Washington, D. C., "Evidences of Paranoia Gleaned from the United States Patent Office." Dr. Harold N. Moyer, Chicago, Ill., "Acromegaly." Dr. Henry H. Donaldson, Chicago, Ill., on "The Weight of the Brain." Dr. Harriet C. B. Alexander, Chicago, Ill., "Paretic Dementia in Women." Dr.

Daniel R. Brower, Chicago, Ill., "Suggestions on the Treatment of Sclerosis of the Spinal Cord." Dr. Archibald Church, Chicago, Ill.—1, "Occupation Neuroses Affecting the Muscles of the Neck."—2, "Syringomyelia." James G. Kiernan, Chicago, Ill., "Malpractice in Insane Hospitals." Dr. L. Harrison Mettler, Chicago, Ill.—1, "Hemiparaplegia; Report of a Case Completely Recovered After One Year's Duration."—2, "Aural Vertigo (Ménière's Disease.") Dr. E. S. Talbot, Chicago, Ill., "Race Degeneracy and the Jaws." Dr. G. F. Lydston, Chicago, Ill., "Remarks on the Therapeutical Use of Static Electricity." Dr. T. H. McBride, Milwaukee, Wis., "Thoughts on the Causation of Insanity." Dr. James J. Putnam, Boston, Mass., "Recent Discoveries and Observations Bearing on the Subject of Poisoning from Exposure to Arsenical Wall Papers." Dr. Thomas D. Crothers, Hartford, Conn., "American Inebriate Asylums." Dr. E. D. Fisher, New York, N. Y., "Transverse Myelitis." Dr. Landon Carter Gray, New York, N. Y., "What Should Constitute Legal Responsibility, in the Medical Sense, in Insanity." Dr. Graeme M. Hammond, New York, N. Y., "On the Proper Method of Determining Whether an Alleged Lunatic shall be Declared Legally Insane or Not." Dr. Frederick Peterson, New York, N. Y., "Care of Epileptics." Dr. Bernard Sachs, New York, N. Y., "Syphilis of the Cord Simulating Tabes." Dr. Thomas G. Morton, Philadelphia, Pa., "Some Medico-Legal Experiences in Railway Cases." Dr. Wharton Sinkler, Philadelphia, Pa., "Some Points in the Weir Mitchell Rest Treatment." Dr. James Hendrie Lloyd, Philadelphia, Pa., "A Study of the Gliomatous Process in the Spinal Cord. Illustrated by Microscopical Sections." Dr. Francis X. Dercum, Philadelphia, Pa., "The Symptomatology of Cerebellar Tumor." Dr. Charles A. Oliver, Philadelphia, Pa., "A Study of the Ocular Symptoms in Friedreich's Disease." Dr. Hobart A. Hare, Philadelphia, Pa., "Has the So-Called Suspension Treatment of Diseases of the Spinal Cord Proved an Addition to our Therapeutics?" Dr. J. Madison Taylor, Philadelphia, Pa.—1, "Notes on the Treatment of Exophthalmic Goitre."—2, "Insanity in Childhood." Dr. Charles W. Burr, Philadelphia, Pa., "A Contribution to the Study of Friedreich's Ataxia." Dr. D. D. Stewart, Philadelphia, Pa., "The Diagnosis of Lead Convulsions." Dr. John B. Deaver, Philadelphia, Pa., "A

Consideration of the Different Trigeminal Operations for the Relief of Pain." Dr. Henry Leffmann, Philadelphia, Pa., "Experiences of a Chemist with Delusional Insanity." Dr. Charles K. Mills and Dr. G. E. de Schweinitz, Philadelphia, Pa., "Hemianopsia and Certain Symptom-Groups in Sub-Cortical Lesions." Dr. Charles K. Mills, Philadelphia, Pa., "Paranoia in some of its Medico-Legal Aspects." Dr. Isaac N. Kerlin, Elwyn, Pa., "Early Recognition and Rational Treatment of Moral Imbecility." Dr. Theodore Diller, Pittsburgh, Pa., "A Case of Sub-Cortical Cyst of the Lower Part of the Ascending Parietal Convolution; Operation—Recovery." Dr. Frank T. Norbury, Jacksonville, Ill., "Insanity of the Aged." Dr. Annette McFarland, Jacksonville, Ill., "Gynecology in the Insane." Dr. C. H. Hughes, St. Louis, Mo., "Dyspepsia as a Nervous Disease; or Indigestion in its Nervous Aspects and Relations." Dr. J. T. Eskridge, Denver, Col., "Case of Syphilis of the Pia, Simulating Tumor of the Brain; Mono-Spasm and Mono-Paresis; Operation; Death on the Third Day." Dr. H. A. Tomlinson, St. Peter, Minn., "The Inadequacy of the Morbid Anatomical Changes Found *Post-Mortem* to Explain the Manifestations of Insanity." Dr. R. M. Phelps, Rochester, Minn., "Degrees of Responsibility as Found in the Insane." Dr. C. B. Burr, Pontiac, Mich., "Surgery in Insane." Dr. T. L. Wright, Bellefontaine, Ohio, "The Special Influence of Alcohol on the Body.

American International Medico-Legal Congress of 1893.

OFFICE OF THE PRESIDENT OF THE AMERICAN INTERNATIONAL MEDICO-LEGAL CONGRESS OF 1893, 57 BROADWAY, NEW YORK CITY,
December 20, 1892.

To the HON. JOHN W. FOSTER, Secretary of State, Washington, D. C.

Dear Sir:—I have the honor to inclose a copy of a letter from myself, of March 31, 1890, to the Hon. James G. Blaine, then the Secretary of State, regarding the proposed International Medico-Legal Congress, then expected to be held in 1892, on the occasion of the Columbian Exposition, and the circulars to which it then related, and a copy of Mr. Blaine's reply of April 17, 1890.

The postponement of that exposition has determined the like postponement of this Congress to the week commencing August 14, 1893, at the city of Chicago. I have the honor also to enclose the last circular letter which embraces a list of the officers and members at the present moment.

I should esteem it a like honor if you would lend the great weight of your name and office to this movement in aid of the science which is here represented.

I have, sir, the honor to remain with high regard—

Very faithfully yours,

CLARK BELL.

DEPARTMENT OF STATE,
WASHINGTON, January 5, 1893.

CLARK BELL, ESQ., President of the American International Medico-Legal Congress of 1893, No. 57 Broadway, New York City.

Sir:—I have to acknowledge the receipt of your letter of the 20th ultimo in relation to the International Medico-Legal Congress, whose sessions are to commence August 14, 1893, at the city of Chicago.

I shall be very glad of any opportunity to show my interest and sympathy in the important work for the furtherance of which the conference is to be convened.

I am, sir, your obedient servant,

JOHN W. FOSTER.

CORRESPONDENCE.

[THE NOSTRUM CANCER.]

St. Louis, March 27th, 1893.

Alienist and Neurologist, City:

Gentlemen:—Allow us to call your attention to the article, "The Nostrum Cancer," in the March number of *Merck's Bulletin*—the Hessian trade journal of Merck's Drug House, Hesse Darmstadt, Germany. Is the German a better chemist than the American? Is not the reverse true? Are the German products advertised in this German trade journal any more ethical than those made by the American chemist and advertised in medical journals? Glance at the articles advertised by German chemists in this trade journal. What do you learn by their formulæ and how to make them? *Examine carefully and draw your own conclusions.* Are the medical journals of America more venal and ignorant than the German medical journals? Is the German doctor a better physician than the American? Is it not time for the medical journals of this country to assert their Americanism and *sit down* on this German impudence?

Respectfully,

Battle & Co., Chem. Corp.

HOSPITAL NOTES.

ALABAMA INSANE HOSPITAL.—The biennial report for 1891 and 1892, shows 1148 patients remaining in the hospital Sept. 30, 1892. 332 patients were, during the biennial period, refused admission for want of room—a striking commentary on the urgent need of additional accommodations for the insane in Alabama. We trust that in building for the future the authorities in Alabama will heed and be guided by the opinion of the late lamented Dr. Bryce, who, in speaking of the institution, said it was "already too large for the careful personal supervision of a single head." Instead of adding more wings to the present huge institution, we trust that Alabama will build a separate institution for acute insane, another for epileptics and still another for criminal insane. One or more of these might be built on ground adjacent to the present institution. This would, in a measure, meet the demand for economy and at the same time be in line with the modern idea of extensive classification.

The report of the acting superintendent, Dr. E. D. Bondurant, is highly commendable in that much attention is given to the scientific side of psychiatry. He states that during the past eighteen months systematic pathological investigations have been pursued, 92 autopsies having been held and 2000 microscopic slides accumulated. This patient, systematic, painstaking, scientific labor, cannot, in our opinion, be too highly commended. We trust that it will not lag, and that the example will stimulate other hospitals, now doing little or nothing in this line, to undertaking this field of labor in the same manner.

Physical examinations of 702 patients were made by Dr. R. A. Wright, assistant physician, with the view of ascertaining the number of patients suffering from heart lesions. Cardiac valvular disease was found in eighty-two—11.72 per cent. of the number examined.

Extensive classification of the various forms of insanity is made by Dr. Bondurant—seventeen different psychoses appearing in the list. It seems remarkable that there should be only two cases of general paresis in a population of 1,148. Paranoia, it would appear, is well

recognized, there being forty-four cases diagnosed as such.

The proportion of recoveries varies between fifteen and thirty-five per cent. of those admitted. Dr. Bondurant feels that the number of recoveries would be much larger if "home treatment" were not so often tried before bringing patients to the hospital. This is a common observation of hospital superintendents; yet we would venture to say that the value of early hospital treatment is a good deal over-estimated. We believe, moreover, that not a few cases of insanity could be better treated outside than in an asylum, if only they could receive intelligent medical care. To show that we are not alone in this opinion we will quote from the presidential address of Dr. Robert Baker, superintendent of the Retreat at York (Eng.):

> We know, and are sure there are not a few persons, especially young people, in a condition of temporary and curable insanity, who can be infinitely better and more wisely treated outside an asylum than in an asylum ward.—*Jour. Ment. Sc.*, Oct. '92, page 490.

The vexed question of mechanical restraint is dealt with in a vigorous manner, Dr. Bondurant supporting and maintaining the views and practice of absolute non-restraint so long and so ably upheld by the late superintendent Dr. Bryce. Although mechanical restraint is not used, Dr. Bondurant states that seclusion and sedative drugs are not used nearly so much as in the days of "judicious restraint."

A report of forty-four consecutive autopsies is made by Dr. Bondurant, acting as pathologist, which is a highly meritorious work. Seventy per cent. of cases examined *post-mortem* showed some kidney lesion. Some form of Bright's disease is recognized in at least one-half the insane brought to the hospital for treatment. The only criticism we have to make on this report is the one which we made on the excellent report of Dr. Blackburn, special pathologist to the Government Asylum at Washington, viz., it ought to be published under separate cover. Certainly it will not interest friends of patients and the public generally, to whom the report is largely sent.

Appended to the report is a minute adopted by the trustees on the death of the late Dr. Peter Bryce, who for more than thirty-one years was superintendent of the hospital, and who died August the 14th, last. It is a warm tribute to one of America's greatest alienists, and one of Alabama's

most noble and distinguished citizens. Coming from the masterful pen of Judge Somerville, the memorial is all that beautiful rhetoric, inspired by a sublime subject, could make it.

Dr. James. T. Searcy, a member of the board of trustees, was elected Dr. Bryce's successor. T. D.

Dr. Hoyt.—Dr. Frank C. Hoyt has been appointed superintendent of the Asylum for the Insane at Clarinda, Iowa.

Dr. Hoyt has been the pathologist and assistant physician at Asylum No. 2 for nearly six years. He is a a young man and has been very successful as a specialist in the treatment of the insane. He has been a resident of St. Joseph for the past nineteen years. From 1882 to 1884, Dr. Hoyt was health officer under the Posegate administration, and successfully handled the small-pox epidemic of those years.

In 1881, Dr. Hoyt founded the St. Joseph *Medical Herald*, of which he was editor for over eight years. For seven years he was a professor in Ensworth Medical College. He is at present a member of the New York Medico-Legal Society, and is also a member of the American Medico-Psychological Association.

Dr. Hoyt has been very efficient in his work in the asylum at St. Joseph, and his unexpected promotion to a broader field of work is a high compliment to his ability as a physician.

The Iowa Insane Commissioners were in this city last week making inquiries concerning Dr. Hoyt, and, after the investigation, tendered him the position, which was accepted. They had previously visited Jacksonville, Cleveland, Chicago and other eastern cities to examine applicants, but returned to St. Joseph and elected Dr. Hoyt.

Dr. Hoyt assumed charge of the Iowa Asylum on January 1, 1893. The asylum has now over 500 patients, and its capacity is to be increased soon.

Dr. Theodore Diller.—Dr. Theodore Diller has been appointed visiting physician to the insane department of St. Francis Hospital, Pittsburgh, Pa.

Danville State Hospital.—Dr. H. B. Meredith, who succeeded the late Dr. S. S. Schultz in the superintendency of the hospital, in making his first annual report

(the 20th. of the hospital) refers feelingly to Dr. Schultz's death. The principal theme of the superintendent's report is the overcrowded state of the hospital. Danville has accommodations for 800, but at one time during the past year it contained 1,145. The crowding is specially marked on the male side, where cots are placed on the floor at night and stored away during the day. Dr. Meredith says: "Sixty and seventy-five patients is manifestly too large a number for a single division or ward, either for hygienic reasons or proper classification, but when this number occupies the space intended for one-half as many, its undesirability is doubly manifest."

Drs. J. E. McCuaig and L. L. Hand have been appointed assistant physicians. Mr. Geo. Copeland, the efficient and genial druggist, resigned to accept a more lucrative position, and was succeeded by Mr. W. E. Meek.

The trustees recommend, as a measure of relief for the overcrowded condition, the erection of a pavilion on the ground, capable of accommodating 300. But it seems to the writer that the end could be best accomplished by taking 300 chronic patients away from Danville and putting them in the new asylum for chronics, as soon as it is completed. Danville is large enough already. T. D.

Drs. Clevenger and Dewey.—Dr. S. V. Clevenger has been appointed by the new board of trustees of the Illinois Eastern Hospital for the Insane, Medical Superindentent, to succeed Dr. Richard Dewey. Dr. Clevenger is well known to the profession as a skillful anatomist and accomplished physician. The appointment is a good one, but why was so competent a man as Dr. Dewey removed to make place for anyone else? Dr. Dewey had made a good and satisfactory record, and should have been permitted to end his days there, if he so desired. We wish now that Dr. Clevenger may be permitted to remain, so long as he shall discharge the onerous duties of his new position, despite any future adverse political change. Political rotation in office for State hospitals is exceedingly serious in practice.

IN MEMORIAM.

PROF. BALL.—Died at Paris, February 23d, 1893, aged 58 years, Dr. Benjamin Ball, Clinical Professor of Psychiatry to the Faculty of Medicine, of Paris, Physician of the Hospital and member of the Academy of Medicine.

Prof. Ball was an original and distinguished figure in the profession of France. Possessed of a fine flow of spirits, distinguished for readiness and diversity of knowledge, fluent of speech, and eloquent in voice and manner to a rare degree, with modesty, benevolence and warmth of friendship, notably for his foreign visiting admirers, this amiable and brilliant colleague will be sadly missed from the ranks of the profession he has so richly and nobly adorned.

In 1877, he was called to the Chair of Clinical Mental Medicine to the Faculty of Medicine, and in 1879, to the position of Physician-in-Chief of the Asylum of St. Anne, filling the latter position with distinction.

His principal work was "Lectures on Mental Diseases," which has gone through several editions and been translated into other languages. Without noting his different monographs and memoirs which have appeared in the medical periodicals and encyclopedias, his other published contributions include "Remarks on Erotic Insanity," "Functional Cerebral Ischemia," "Morphino-mania," "Claustrophobia," etc. He was also associated with Charcot, Luys and others.

This distinguished *savant* in the world of medical science has prematurely fallen in the midst of labors his colleagues have with one accord applauded.

The place he has so ably filled in the ranks of his medical colleagues and in the hearts of his friends, will be difficult to fill.

Reviews, Book Notices, Etc.

Reform in the Treatment of the Insane.—Early History of the Retreat, York; Its Object and Influence, with a Report of the Celebration of its Centenary. By D. Hack Tuke, M. D., LL. D., formerly Visiting Physician to the Retreat. London: J. & A. Churchill, 11 New Burlington Street. 1892. Pages 96.

This little volume is dedicated by the author to his great-grandfather, William Tuke, "whose courageous humanity a century ago is recognized at home and abroad." The major part of the book is taken up by an address given by the author at the centennial meeting of the Retreat at York, May 6th, 1892. The author remarks that family papers and traditions gave him a special facility for preparing the sketch.

In his preface he says: "The languid interest now felt in the stirring events of that period (1792–1815) by the general public, and even many medical men, is not a little surprising, seeing that one in every three hundred of the population suffers from mental disorder, and has good reason to be thankful he is not lying in a dark cell on straw, 'being bound in affliction and iron.'" In a most pleasing manner the author tells the story of how his illustrious forefather inaugurated the great reform at York one hundred years ago, which resulted in the complete emancipation of the insane from chains and irons, cruelty and neglect. Like most reformers, the good, mild Friend, William Tuke, had many obstacles and discouragements to overcome before he was able to inaugurate the first hospital where kindness was to be the ruling principle instead of chains and irons. In his own graceful style his great-grandson tells how the Retreat grew and flourished, and how its influence for good spread to all parts of the civilized world. American alienists, particularly Isaac Ray, were glad to learn from York. Happily, there arose no international rivalry between France and England on account of the reform measures instituted in the former country by Pinel. The enterprise undertaken at the Bicêtre was unknown at the Retreat until 1806, and, on the other hand, it was not until 1798 that Pinel became aware of what had been accomplished at York. A happy feature of the celebration was the presence of Dr. Semelaigne, of Paris, a great-grand-nephew of the illustrious Pinel.

We are exceedingly pleased to note that Dr. Tuke pays his respects to pseudo, hysterical and sham reformers, who by attempting impracticable and impossible reforms, sometimes place real reformers in a false light. For example, in these days we have reformers who are so exceedingly humane (?) that they will not restrain the insane persons who have broken limbs or who mutilate themselves, or persistently attempt to kill themselves or others, or who waste their little remaining strength in ceaseless muscular activity. The sham reformers certainly can find nothing in the history of the noble Retreat to justify their radical ideas.

Dr. Tuke writes: "It has often been stated in histories of the treatment of the insane in England that the Retreat introduced what is called non-restraint. This is quite a mistake. It never was, and is not at the present day, a dogma held by those who have the management of the Retreat that under no circumstances whatever is it justifiable to resort to mechanical means of restraint. On the contrary, it was frequently stated by those who spoke in the name of the institution that no rule could be laid down on the subject and that it must be left entirely to the discretion of the medical superintendent so long as he retains the confidence of the directors." All of this goes to show that pseudo and impracticable reform never entered into the Retreat so far as mechanical restraint goes.

The address is of such nature that it can scarcely be criticised, but must be read to be appreciated. For all alienists it must possess a peculiar charm, and we are sure that it would interest many general physicians and laymen were it placed in their hands. We most heartily wish the book a large sale, for its possibilities for good are great.

THEODORE DILLER.

PIERRE JANET. Etat mental des Hystériques. Les Stigmates mentaux. Par-ancien éleve de l'école normale supérieure, Professeur agrégé de philosophie au Collège Rollin, Docteur ès lettres, Lauréat de l'Académie des Sciences morales. Avec 7 figures dans le texte. Paris. Rueff et Cie., Editeurs.

Hysteria is a disease which, in its intricate phases, is too little studied in this country and about which many practitioners have very vague ideas only. There are yet some who do not consider it a disease at all, but rather a collective name for certain whims and tricks of refractory female patients, that require heroic treatment by morphine, cold water, emetics, the actual cautery, etc. These would probably change their minds after reading this little volume, which forms the first half of Dr. Janet's studies on the subject. But this extensive and learned philosophical discussion of some of the phenomena of hysteria will be enjoyed much more by those who occupy a more advanced stand-point, but have in vain looked for full information in our text-books and reviews. France is the classical country of hysteria, and since not everybody has a chance to study at the Salpêtrière under Charcot's guidance, we have to be glad to receive the fruit of his teaching in this form.

In this first half of his work Dr. Janet treats of the anæsthesia, amnesia and aboulia of the hysterical, as well as of the disturbances of movement and the modifications of character. To those that make careful and scientific diagnosis a point in their practical work, the chapter on hysterical anæsthesia alone would outweigh the trouble of getting and studying the little book.

The book forms a volume of *Charcot-Debove's Bibliotheque Medicale* and shares the rich external appearance and the low price with the other volumes of the same series. T.

THE DISEASES OF THE NERVOUS SYSTEM. A Text-Book for Physicians and Students. By Dr. Ludwig Hirt. Translated, with permission of the author, by August Hoch, M. D., assisted by Frank R. Smith, A. M., M. D. With an Introduction by William Osler, M. D., F. R. C. P. 8vo., pages 693. With 178 illustrations. New York. D. Appleton & Co. 1893.

This book appears in English under the sponsorship of the eminent American clinicians, Drs. W. Osler and Weir Mitchell. It certainly merits their approval, and they deserve the thanks of the non-German-speaking American profession for causing this translation of an interestingly original work. In the present volume there is much original work in neurological illustrations. Dr. Hirt makes some departures from the ordinary classification. He places tabes among the disorders affecting the general nervous system.

The *Medical Standard* in its review of this book, says on this subject: "The trend of neurological opinion is in this direction, since tabes has been shown to have such close clinical affiliation with paretic dementia."

Tabes dorsalis is certainly more, in its later stages, than a systematic nervous affection. The characteristic arthropathies, final crises and pupillary phenomena mark its organic diffusion.

The author's views on hypnotism and on therapeutics generally are cautiously considered.

Besides the hereditary neuropathic constitution which the author finds to be prominent in the ultimate locomotor ataxia, he reports a history of constitutional syphilis in ninety per cent. of his own observed cases. The figures correspond closely to those of Fournier.

The many original illustrations constitute a distinguishing and valuable feature of this work. That its typographical execution is excellent is guaranteed with the mention of the name of the publishers, and the names of its translators is full warranty of fidelity to the text and elegance of diction.

DIET FOR THE SICK. By Miss E. Hibbard, Principal of Nurses' Training School, Grace Hospital, Detroit, and Mrs. Emma Drant, Matron of Michigan College of Medicine Hospital, Detroit; to which has been added "Complete Diet Tables" for various diseases and conditions, as given by the highest authorities. Detroit, Mich. *The Illustrated Medical Journal Co.*, Publishers. Paper, 74 pages. Price, postpaid, 25 cents; six for $1.00.

This little book is a worthy supplement to any cook book, as it deals only with the dishes suitable for the sick and convalescent; the receipts being favorite ones in use daily in the hospitals wherein the authors are employed. To this has been added the various authorized Diet Tables for use in anæmia, Bright's disease, calculus, cancer, chlorosis, cholera infantum, constipation, consumption, diabetes, diarrhea, dyspepsia, fevers, gout, nervous affections, obesity, phthisis, rheumatism, uterine fibroids. It also gives various nutritive enemas. The physician can use it to advantage in explaining his orders for suitable dishes for his patient, leaving the book with the nurse.

PERIPHERAL NEURITIS. By Jas. Ross, M. D., London, Eng.: Chas. Griffin & Co. 1893.

This posthumous book is an excellent summary of modern knowledge of the neuritides. The classification adopted is as follows: I Idiopathic; (*a*) acute (Landry's paralysis), (*b*) subacute, (*c*) chronic. II. Toxic; (*a*) diffusible stimulants, (*b*) animal poisons, (*c*) metallic poisons, (*d*) endogenous poisons. III. Dyscrasic. IV. Sensory, Vasomotor and Trophic; (*a*) neurotabes peripherica, (*b*) erythromelalgia, (*c*) Raynaud's disease. V. Irritative; (*a*) tetany, (*b*) professional hyperkineses. The book is clearly written and contains an excellent bibliography. Dr. Bay has supervised the present edition and done his work well. The literature of this subject has justly grown into importance and professional appreciation during the past decade.

ARTIFICIAL FEEDING OF INFANTS. By Cyrus Edson, M. D., Sanitary Superintendent Board of Health, New York.

We have read with pleasure this timely *brochure* on an important subject, *apropos* to the management of diseases of the approaching hot season, and we note with especial approbation many pithy paragraphs, like, for example, the reference to the cow and milkman on the third page The man who gives to the profession a soluble food for infants and old age that will suit the stomach of the young and the aged as a substitute for coarser foods that are indigestible by delicate stomachs, is a public benefactor. Among such we class Reed & Carnrick. Their Soluble Food and Lacto-Preparata are undisguised blessings to physician and populace.

AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION.—It will take some time to accustom ourselves to the new name for the association of asylum superintendents, yet we believe the change is a good one.

The Proceedings of the Forty-Sixth Annual Meeting, which are before us, contain much of interest. The attendance was large, showing that interest is not flagging in the Association.

The first paper read before the Association was that of Dr. G. A. Blumer, of Utica, on the "Surgical Treatment of Insanity." The address was largely one of personal experience, with eight cases operated on at the Utica Asylum during the past year. With the exception of two, the patients were all cases of epilepsy. These cases were operated on with the view of testing the curative value of an operation, *per se*. Epileptics were taken at random and the operation was generally performed at the same point, unless a scar indicated a different point. The result was uniformly disappointing in the epileptics. No deaths occurred, however—perhaps to be accounted for in some measure by the fact that the dura was, as a rule, not opened.

A case of dementia in which an operation, *per se*, applied empirically, was performed, made some slight improvement. In another epileptic some improvement followed castration. Dr. Blumer remarks: "Cer-

tainly there is nothing in our experience at Utica to give color to the theory of a curative effect by operation, *per se.*"

Dr. Wagner's case, in which he trephined for general paresis is next given. This case has already been published (*Amer. Jour. Insanity*), and referred to in the ALIENIST AND NEUROLOGIST.

The paper was discussed by Drs. Wagner, Buck, Rohé, Murphy, Hill and others.

The time-honored question of "Restraint" was discussed by Drs. Rucker and Wright. Their papers, indeed most of the papers read, do not appear in the Proceedings.

The "Manual" prepared by Dr. Blackburn, of the Government Asylum, by order of the Association, was well received. A chapter on "Congenital Brain Defects" was added by a special committee constituted for that purpose. The committee reported a good demand for the "Manual" was confidently expected.

Dr. Chapin's paper, "General Suggestions; Increased Attention to Acute Cases; The Cultivation of the Hospital Idea," was well discussed. Dr. Hurd said: "The insane can only be cared for properly by a person who is constantly on the ground. It is absolutely out of the question for visiting physicians and eminent neurologists, however eminent they may be in their specialty, to give their personal attention to the details which the necessities of acute cases require. For that reason it already appears evident that the movement to erect special hospitals in the cities on the plan of general hospitals, for the care of the insane, will amount to nothing." He favored detached cottages in connection with insane asylums for the treatment of curable cases; he would also have an infirmary ward like that of a general hospital.

Dr. Godding stated that the Government Asylum was endeavoring to get an appropriation to erect a separate building for epileptics. Patients must not be treated longer by classes or sections.

The discussion on Dr. Blackford's paper on the "Employment of Patients" did not bring out much difference of opinion. Progress in utilizing patients' labor seems to have been made all along the line.

Dr. Cowles told about the new McLean Asylum that is to be built. It will consist of a number of buildings, each unlike the other, the whole resembling a suburban village. The noisy and disturbed patients will be at a distance from the central building. Dr. Cowles defended this plan because of his confidence in the excellently-trained nurses at the McLean Asylum. But a hospital will be placed near the administration building. There will be for patients of the private class, cottages containing accommodations for but eight, each having a suite of rooms. The hospital will be the most radical departure yet seen in this country from the old-fashioned but doomed "institutional" building. Its practical workings will doubtless attract much attention.

The new Bloomingdale buildings at White Plains will be built on the congregate plan, with distinct separate buildings connected by corridors.

Dr. Steadman's paper on "Separate Provision for Epileptics," was

discussed by Dr. Baker, who has for some time been urging this idea and who reported that the subject had been brought to the notice of the Massachusetts Legislature and that the idea had received strong support in England from the British Medico-Psychological Association. He urged that provision be made for non-insane, as well as insane, epileptics.

Dr. D. Clark called attention to the medico-legal questions in connection with aphasia, taking the ground that amnesic or ataxic aphasia was not, *per se*, evidence of mental alienation and of incompetency.

Dr Gorton related a case in detail, where a man unable to talk or write yet made known his wants and indicated the disposition he wished made of his property.

On the subject of "The Care of the Criminal Insane," Dr. Long said: "I am emphatically of the opinion that the patients in the hospital for the insane who are not criminals should not be forced to associate with the criminal insane, as they certainly shun such associates in their home life. That the convict insane should be removed from the environment that is often a prominent factor in the causation of their condition, and placed in a hospital for the care of the insane, appears to me to admit of no question." He thought New York, Michigan and Illinois were the only states which provided separate asylums for the criminal insane, and believed it was a mistake to locate adjoining a prison. New York has just completed a building away from any of the prisons.

Obituary notices of Drs. S. S. Shultz, J. P. Bancroft and Theodore S. Armstrong were read.

The Association will next meet in Chicago. T. D.

The Semaine Medicale is now published in the English language under the name of *The Medical Week*, as well as in French. It is not a mere translation of the French journal, but a distinctly English periodical, a large part of which is devoted to original contributions and to reports of the transactions of medical societies in English-speaking countries.

The circulation of the *Semaine Medicale* reached 950,000 copies in 1891; and exceeded 1,000,000 in 1892—and this among advanced and discriminating medical readers. Dr. G. de Maurans is the editor, 18 rue de l'Abbé-de-l'Epée, Paris.

The Medical Magazine.—The April Number contains the following articles: "Medical Epigraphs in the British Museum," by Dr. Keser; "The Late Dr. James Anderson," by Dr. R. W. Burnet; "Mental Evolution and Physical Development," by Charlotte Smith; "Influenza," by Dr. C. Egerton Fitzgerald; "Physical Education," by J. S. E. Cotman; "The Massacre of the Innocents.—V.;" "Three Guy's Physicians. II.—Dr. Hilton Fagge;" "Reports and Analyses." Editorials, Reviews, Notes, etc. Price, 2 | 6; Post free, 2 | 9; Half-yearly,

post free, 15 | –. May be obtained through all booksellers, and from Messrs. Southwood, Smith & Co., 4, King Street, Cheapside, London, E. C.

Bibliotheque Medicale publiée sous la Direction de MM. les professeurs Charcot et Debove. Volumes 16, reliure d'amateur tete dorée prix 3f. 50. Dernier volume paru: Etat mental des Hystériques; Les Stigmates mentaux par M. Pierre Janet. Librairie Rueff & Cie., 106 Bd. St. Germain, Paris.

Paralysis spinalis syphilitica. (Erb). Von Dr. Muchin, Privatdocent der Nervenkrankheiten in Charkow. Aus der Poliklinik von Prof. P. Kowalewskij in Charkow. Sonderabdruck aus dem Centralblatt für Nervenheilkunde und Psychiatrie. Mai-Heft 1892.

Eine eigenthümliche bei drei Geschwistern auftretende typische Krankheit unter der Form einer progressiven Dementia in Verbindung mit ausgedehnten Gefässveränderungen (wohl Lues hereditaria tarda). Von Prof. E. A. Homén in Helsingfors (Finland).

Alcoholism and Its Treatment. By J. E. Usher, M. D., Fellow of the Royal Geographical Society of London, Formerly Surgeon Superintendent and Medical Officer of Health to the Queensland Government. Published by G. P. Putnam's Sons, New York.

The Wherewithal; or, New Discoveries in Cause and Effect. Published by the Wherewithal Publishing Co., Philadelphia. This is an analytical method of study, which we consider of advantage to those who have no more satisfactory method.

An Historical Address. Delivered at the Semi-Centennial Celebration of the St. Louis Medical College [Medical Department of Washington University.] By G. Baumgarten, M. D., Professor of Special Pathology and Therapeutics.

Something More on the Pathology and Treatment of Hemorrhoids, Fissures, Fistulas and Ulcers in the Ano-Rectal Region, with a Few Notes on Prolapsus-Ani and Neoplasm. By Thomas H. Manley, M. D., New York City.

Archiv. für Dermatologie und Syphilis. In Gemeinschaft mit Prof. Caspary, Königsberg; Prof. Kaposi, Wien; Prof. Lewin, Berlin; Prof. Neisser, Breslau; herausgegeben von Prof. F. J. Pick in Prag.

Unsoundness of Mind in Its Legal and Medical Considerations. By J. W. Hume Williams, of the Middle Temple, Barrister-at-Law, London. William Wood & Co., New York, Publishers.

Drunkenness. By George R. Wilson, M. B., C. M., Assistant Physician, The Royal Asylum, Morningside, Edinburgh. Published by Charles Scribner's Sons, New York.

Foreign Bodies in the Stomach and Trachea. Report of a Case. By John Caven, B. A., M. D., and Thomas Weir, M. D. Osteo-Chondroma of the Hand. By Edmund E. King, M. D., L. R. C. P., London.

Condensed Extracts (Monthly) from the latest German, French, Italian, Spanish, Portuguese and other Medical, Dental and Pharmaceutical Journals. By Ferd. C. Valentine, M. D., New York.

The Newer Medical Education in the United States, as Shown in the Department of Medicine and Surgery of the University of Michigan. By W. J. Herdman, M. D., Ph. B., Ann Arbor, Mich.

Conclusions Regarding the Use of Drainage Tubes and Ligatures, and the Possibilities of Skin Disinfection Based Upon Bacteriological Investigations. By Hunter Robb, M. D., Baltimore.

An Outline of the Technique of Abdominal and Pelvic Operations, as Performed in the Medico-Chirurgical Hospital of Philadelphia. By William Easterly Ashton, M. D., Philadelphia.

Practical Experiments in the Treatment of Cholera in St. Petersburg, Russia, and Hamburg, Germany, in the Epidemic of 1892. By Elmer Lee, A. M., M. D., Ph. B., Chicago.

Report of Cases of Moral Imbecility, of the Opium Habit, and of Feigning, in which Forgery is the Offense Committed. By J. T. Eskridge, M. D., Denver, Colo.

Trional and Tetronal. Clinical Observations on Their Action as Hypnotics and Sedatives for the Insane. By Wm. Mabon, M. D., Utica, New York.

Where to Place the Axes of Cylindrical Lenses of Spectacles in Cases of Oblique Astigmatism. By N. C. Steele, M. D., Chattanooga, Tenn.

The Value of Javal's Ophthalmometer for the Correction of Astigmatism where Marked Amblyopia is Present. By A. Britton Deynard, M. D.

A Clinico-Pathological Study of Injuries of the Head, with Special Reference to Lesions of the Brain Substance. By Charles Phelps, M. D.

Mechanical Support in Fracture and Dislocation of the Sixth Cervical Vertebra. By H. Augustus Wilson, M. D.

Bulletin of the Psychological Section of the Medico-Legal Society. By Clark Bell, Esq., New York.

Ripening of Immature Cataracts by Direct Trituration. By Boerne Bettman, M. D., Chicago.

Spinal Surgery; A Report of Eight Cases. By Robert Abbé, M. D., New York.

The Third Year's Work at the Clinic for Diseases of the Rectum in the New York Post-Graduate Hospital. By Charles B. Kelsey, M. D.

At What Age Should the First Treatment of Congenital Club-Foot Be Instituted? By H. Augustus Wilson, M. D., Philadelphia.

Modern Homœopathy; Its Absurdities and Inconsistencies. By William W. Browning, A. B., LL. B., M. D., Brooklyn, N. Y.

Exercise Spectacles for the Correction of Insufficiency of the Obliques. By. G. C. Savage, M. D., Nashville, Tenn.

Some Physiological Experiments with Magnets at the Edison Laboratory. By Frederick Peterson, M. D , New York.

Pulmonary Phthisis in Its Relation to Insanity and to Other Neuroses. By Thomas J. Mays, M. D., Philadelphia.

The Therapeutical Value of the Mercurial Salts in General Surgery. By Thomas H. Manley, M. D., New York.

An Experimental Study of Simultaneous Stimulations of the Sense of Touch. By William O. Krohn, Ph. D.

Senn's Great Surgical Clinics at the Rush Medical College, Chicago. By G. Wiley Broome, M. D., St. Louis.

The Frequency of Renal Disease among the Insane. By E. D. Bondurant, M. D., Tuskaloosa, Ala.

The Diagnosis of Empyema of the Antrum of Highmore. By Robert Levy, M. D , Denver, Colo.

A Consideration of the Knee-Jerk Symptom. By R. M. Phelps, A. M., M. D., Rochester, Minn.

The Treatment of the Insane Outside of Asylums. By Frederick Peterson, M. D., New York.

The Psychological Examination of Prisoners. By Dr. Jules Morel, Hospice-Guislain, Ghent.

Hysteromyomectomy for Large Myomata of the Uterus. By Hunter Robb, M. D., Baltimore.

The Condition of the Blood in Certain Mental States. By S. G. Webber, M. D., Boston.

A Materialistic View of Sexual Impotence. By Bransford Lewis, M. D., St. Louis.

A Study of the Cheyne-Stokes Respiration. By Samuel Wolfe, M. D., Philadelphia.

Hypnotism as a Therapeutic Agent By William Lee Howard, M. D., Baltimore.

Transactions of the American Neurological Association. Eighteenth Annual Meeting, held at New York, June 22d, 23d and 24th, 1892.

Report of a Case of Syringomyelia, with Exhibition of Sections of the Spinal Cord. By James Hendrie Lloyd, A. M., M. D., Philadelphia.

Intra-Cranial Neurectomy of Second and Third Divisions of Fifth Nerve. By John B. Roberts, M. D., Philadelphia.

Irrigation of the Urethra and Bladder by Posture and Continuous Current. By B. H. Daggett, M. D., Buffalo, N. Y.

A Case of Tumor of the Mid-Brain and Left Optic Thalamus. By James Hendrie Lloyd, M. D., Philadelphia.

Forms of Pseudo-Tabes Due to Lead, Alcohol, Diphtheria, Etc. By James Hendrie Lloyd, M. D., Philadelphia.

Hydrotherapy in the Treatment of Nervous and Mental Diseases. By Frederick Peterson, M. D., New York.

The Nervous Affections that May Arise from Malaria. By William Browning, M. D., Brooklyn, N. Y.

Tumor of the Liver in which Removal Was Attempted. By John B. Roberts, M. D., Philadelphia.

A Study of a Series of Degenerate and Criminal Crania. By G. Frank Lydston, M. D., Chicago.

A Case of Hysterical Astasia-Abasia Suing For Damages. By L. Bremer, M. D., St. Louis.

The Bicycle in its Relation to the Physician. By Seneca Egbert, A. M., M. D., Philadelphia.

A Case of Homatropine Susceptibility. By George M. Gould, A. M., M. D., Philadelphia.

The Use of the Currette in Uterine Surgery. By A. Vander Veer, M. D., Albany, N. Y.

Fixation After Excision of the Knee. By H. Augustus Wilson, M. D., Philadelphia.

The Cosmetic Surgery of the Nose. By John B. Roberts, M. D., Philadelphia.

The Antiseptic Dropper. By George M. Gould, A. M., M. D., Philadelphia.

Itching of Central Origin, or Brain Itch. By Dr L. Bremer, St. Louis.

Ein Fall von combinirter Muskelatrophie mit eigenthümlicher Aetiologie. Von Professor E. A. Homén in Helsingfors (Finland).

Beiträge zur Symptomatologie des Morbus Basedowii. Von Professor E. A. Homén in Helsingfors (Finland).

Ein typischer Fall von Paramyoclonus multiplex. Von Professor E. A. Homén in Helsingfors (Finland).

The Sensory-Motor Functions of the Brain. By L. Harrison Mettler, A. M., M. D., Chicago.

Amblyopiatrics. By George M. Gould, A. M., M. D., Philadelphia.

Medical Notes in Egypt. By Frederick Peterson, M. D., New York.

Typhoid Fever and the Soil. By Hugo Summa, M. D., St. Louis.

A Case of Lethargy. By Charles E. Wright, M. D., Indianapolis.

Traumatic Myelitis. By J. T. Eskridge, M. D., Denver, Colo.

Achillodynia. By Augustus A. Eshner, M. D., Philadelphia.

Abscess Around the Rectum. By Charles B. Kelsey, M. D.



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ORIGINAL CONTRIBUTIONS.

MORBID JEALOUSY.*

By DIMITRY STEFANOWSKI, Jaroslawl, Russia,

Assistant Imperial Attorney.

THE sentiment of jealousy is intimately allied to the sexual act of which it is but the product. It is of purely instinctive origin and is widely diffused among animals, where it is exclusively confined to the male.† In man, the sentiment, however, whether by influence of social life or by the prodigious mental development of man, has undergone a profound modification. It has extended from possession of the body to sovereignty of the mind. Social surroundings have exerted an enormous influence. Primitive marriage hardly merits the name of marriage. It was simply a seizure and ownership of the person of a woman by a man, who held her by the same right as other property and regarded adultery simply as a variety of robbery. This opinion, strongly sustained by

* Read before the Congress of Medical Jurisprudence, Chicago, 1893. Translated by JAS. G. KIERNAN, M. D., Secretary.

† This is too strongly put. Exceptional instances have been noted in monogamous birds and mammal. In these, as I have already pointed out in the ALIENIST AND NEUROLOGIST, 1891, true marriage often occurred, with, as Brehm and Finck have shown, romantic love in the best sense. J. G. K.

Letourneau,* has, however, been impugned by Tillier,† who says, there anent:

> The opinion has been advanced that at the outset adultery was considered but a variety of robbery, and punished from this stand-point at once. This method of viewing the subject is probably inexact, since males of all animals combat other males who attempt to seize their females and there is nothing tending to show that the ancestral form of man failed to inherit jealousy.

These two contrary opinions are, however, easily reconcilable if the fact be remembered that with the progress of civilization the sentiment of jealousy has become extremely complex. In the existing state of culture jealousy crops up in a thousand forms, which, however, can be ranged under three great types:

First, Animal jealousy, a so to speak, instinctive and physiological variety, is common to man and animals. Paul Bourget‡ has denominated this type, "jealousy of the senses." It is the most brutal of all and often leads to murder and suicide.

Second, Moral or sentimental jealousy, which wishes to possess not the body only, but the mind also, of the loved object. Bourget has denominated this variety, "jealousy of the heart," and has thus clearly outlined the distinction between these two types. "Jealousy of the heart" has for cause the thought of the sentiments experienced for another heart by a heart which loves it, while "jealousy of the senses" has for basis the conception of the sensations experienced by one body to another body which has physically loved it.

Third, Social or conjugal jealousy, which is produced by the wounded feelings of honor, propriety and self-love. Here must be placed the resentment of the husband deceived by the adulterous wife. The sexual element is frequently absent from these cases.

All three types often encountered mixed together, are always very varied and complicated in their quality and intensity, so that it is impossible clearly to distinguish them in each individual case. Some persons are jealous

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* "Evolution of Marriage." *Scribner*, 1892.

† "L'Instinct chez les Hommes et Les Animaux."

‡ "La Physiologie de l'Amour Moderne."

to excess, while others are almost completely exempt from this passion. Thus, it may, in general, be admitted that jealousy is less developed in women, and this is particularly true of the inferior and polygamic races, where woman, to use Tillier's expression, has not yet conquered the right to be jealous.*

The phenomena of morbid jealousy have not yet been systematically studied, albeit they are as interesting to the physician as to the criminalist. It is above all from the stand-point of forensic medicine that I shall endeavor here to sketch for the first time these states of morbid jealousy; the study of these morbid states being the more necessary that penal justice encounters them very often with their fatal consequence and pursues them without seeking to comprehend their intimate nature or their pathological significance.

Hyperæsthesias of jealousy.—The best known instance of this is the "insane jealousy," already described by Trélat† and discussed at some length by Dorez.‡ An insane patient takes as the starting point of his delusions the alleged infidelity of his wife. Then, according to Dorez, all that he sees, hears, feels; the unexpected perfume of a handkerchief, a look, the inspection of undergarments, all furnish traces of an odious infidelity and all are interpreted in the light of his delusion. From this elaboration, more and more exclusive of the central delusion, are born others, which are correlated and intertangled, so that the unfortunate victim of jealousy becomes incapable of continuing his occupation and ceaselessly plagues his family with his complaints, reproaches and his despair. There is no more peace for him or his intimates. Laurent§ has cited the case reported by Rouillard of a lunatic who left his work to spy on his wife in the streets. She was a highly esteemed, honorable, 45-year-

* There are such numerous exceptions to this rule that its existence may yet be held *sub judice.* J. G. K.

† "La Folie Sucide."

‡ "La Jalousie Morbide." Paris, 1889.

§ "L'Amour Morbide."

old woman. He inspected minutely all her soiled linen for traces of her supposed infidelity. While too well trained to impart his suspicions to outsiders, he had violent scenes with his wife. He unsealed the letters she received, held them to the light, bathed them in chemical solutions to discover lines written in sympathetic ink. An insanely jealous patient of Trélat was hallucinated. He heard his wife's lovers, hidden under the roof, rally him coarsely and obscenely on the absurd position in which they had placed him.

Although insane jealousy may arise spontaneously in the insane, especially in the degenerate, alcohol is particularly noticeable as a predisposing cause. It has been plausibly claimed that abuse of alcohol produces atrophy of the genital organs and diminishes the power of fecundation and sexual ardor. Lancereaux finds genital pathological lesions in alcoholics to resemble those of senility. The testicles atrophy and the spermatozoa disappear. In the female menstrual irregularities occur, followed by cessation of the menses. This degeneracy in sexual physiology is accompanied by physical and moral impotence, of which jealousy is a necessary concomitant. Krafft-Ebing* has remarked that among many of the alcoholics may be found insane jealousy, which is part at times of a general persecutional state and at times a spontaneous phenomena. It is interlaced frequently like a red thread, with the course of alcoholic psychic degeneration and appears often at the onset of alcoholic intoxication and leads the patients to bloody, sometimes mortal acts, against the innocent victims of their suspicions.† Krafft-

* "Treatise on Mental Disease."

† Spitzka ("Insanity") points out that the persecutory delusions of alcoholism relate to the sexual organs, sexual relations and to poisoning. This fact is so constant a one that the combination of a delusion of mutilation of the sexual organs, with the delusion that the patient's food is poisoned and that his wife is unfaithful to him may be considered as nearly to demonstrate the existence of alcoholic insanity as any one group in mental pathology can prove anything. With this there are unpleasant hallucinations. There is this peculiarity of insane inebriates that their acts are not consistently regulated by their delusions. Thus, one patient may live in comparative tranquillity with a wife whom he suspects of committing adultery in the boldest way and before his face night after night. Another under the influence of the same delusions may, in mortal fear of being poisoned by her supposed paramour's interest, kill his wife in a fit of blind fury.

Ebing,* in a later study on jealousy in alcoholics, remarks that he has observed this in eighty per cent. of alcoholics still capable of sexual life. He is of opinion that it can be explained as much by extreme enfeeblement of sexual power as by the erotic tendencies still existent. Laurent† has observed instances of similar enfeeblement of sexual appetite in criminals. "I have met," he says, "very often young, vigorous men, who told me that they preferred a glass of wine to a woman. A 36-year-old counterfeiter, for example, long addicted to alcoholic abuse, was but very little tormented by erections and thought but little of women. When liberated in April of the preceding year he had coitus only in the middle of July following. An hereditary degenerate, placed alcohol infinitely above women and preferred to the ephemeral joys given or sold by the latter, the pleasures of alcohol. He had lost his wife eighteen months previously and had copulated but once since. Such a dipsomaniac, feeling himself enfeebled in his virility, commences to suspect whether his wife has not become unfaithful and this suspicion becomes the point of departure of an insane jealousy which has but too often fatal results.

After having studied jealousy in the insane it becomes easier to understand the jealousy in the sane, who suffer in consequence of unfaithfulness. Modern psychologists‡ admit that there exists no essential difference between mental and physical pain, both being two species of the same genus. The experiments of Owsiannikoff and Dittmar, show that pain is accompanied by an arrest of nervous irradiation and spasm of the vasomotor nerves of the brain. Meynert, interpreting these phenomena from a psychological stand-point, has constructed his ingenious hypothesis of moral pain as produced by functional anæmia of the cerebral cortex. Féré's researches tend in the same direction—that is, that

* "Uber Eifersuchtswahn." Jahrb. f. Psych. X. 2.
† "Les Habitues des Prisons de Paris."
‡ See Beaune's "Les Sensations Internes."

all unpleasing sensation can be resolved into a sensation of feebleness produced by cerebral anæmia. F. Paulhan has analyzed this phenomenon from an introspective stand-point and has made a happy attempt to explain all affective phenomena as results of an arrest of tendencies. It would, therefore, seem that the jealousy conception should be considered as a sort of arrest of psychic irradiation. Love experienced for a person can be measured by the place this person occupies in our mental life and the *rôle*, the acts and words of this person play in the organization of our habits of thought. Thus are formed systems of ideas and tendencies which become more and more organized. The unfaithfulness of a loved woman is then a disorganization of the person loving, a destruction of the *ego*, an arrest of a great number of systems of ideas and tendencies. Since this suffering is produced by real, and in no respect imaginary, cases, it must be regarded as normal. It may, however, attain such intensity as to be shown in a pathological manner. This is particularly true of the cases in which the jealous conception does not yield to the action of time, but lasts for months and years without enfeeblement, as do the delusional conceptions of the insane. In such cases it is impossible to regard the affected person as normal, since the intensity and duration of the conception clearly demonstrate its pathological nature. This was the fact in the following case :

Mme. Laurent, of Versailles, having surprised the criminal intimacy of her husband with a servant, she ordered him out of the house. For more than six months she was as one possessed. She could not enter the room where the adultery had been committed. At last, she went to Chartres to kill her rival and shot her dead without a word. Physicians and witnesses explained to the jury the cause of this prolonged jealousy. In the words of a physician, the accused was a degenerate, haunted by a species of interior spirit, which at certain intervals caused her to lose full consciousness of her acts.*

* A Bataille " Causes Criminelles de 1890."

Laurent has also reported a case of this kind:

The accused, S., after having espoused a prostitute, whose past and whose habits of drunkenness were known to him, perceived that his wife deceived him. He at first indulged in tirades against her jealousy; then, in the fear of losing her, he closed his eyes to her acts and was happy to have still the portion of love she gave him from time to time. Two years later she quitted him to lead her old dissipated life. During this time S. suffered horribly, tortured by jealousy and sexual desire for his wife. His nights were troubled with abominable nightmares. He saw his wife naked delivering herself to other men in lascivious poses. One morning he awoke covered with perspiration. He rose in a state of exaltation and went off without knowing where he was going, walking by chance but led by an instinct, like that of a beast in heat, to the search of the woman so ardently desired. He returned in spite of himself to the door of his wife's residence and awaited the moment of her departure, disheveled and with her lips still wet from the kisses of another. He threw himself upon her and stabbed her to death. The medico-legal report declared him irresponsible on the ground that he had obeyed an irresistible impulse which had annihilated his will.

The series of states of morbid jealousy would not be complete without a discussion of late jealousy, several curious instances of which have occurred in my judiciary practice. It sometimes occurs that a man marries a wife who had in her past some gallant adventure. This adventure had not been hidden from him, Knowing already the fault of his future wife, he has pardoned her with all his heart. His love for her was then so strong that to possess her solely he closed his eyes willingly on the past. The woman, taught by one bitter lesson, has become an honest, faithful wife, devoted to her husband, with whom she has lived several years without giving cause for suspicion. Nevertheless, the husband, little by little, becomes jealous of the past of his spouse, the fire of his love is extinct and the illusion is dissipated under the influence of habit, satiety or monotony of sensations. Jealousy is

no longer counterbalanced by generous love and he commences to hate the unfortunate woman, of whose past he has a conception in which there exists a rival who was happy before him. This rival he cannot reach and all his vengeance is poured on the head of the wife, the sole victim of this tardy jealousy. This was the sad story of the following case, which made much noise in Russia:

Basile Pishikoff was a 28-year old simple copying clerk, without culture, fortune or position, when he espoused in the city of Orel, in 1878, a rich, noble girl, Valentine de St. Vincent, who brought him as dowry, landed property to the value of more than 40,000 roubles. Miss de St. Vincent was a gay, careless orphan, of 18 years. It may be presumed that young girl had had a love scrape before her marriage, known to Pishikoff, who, at first, her confidential friend, managed later to become her lover. It should be added that the girl committed a shocking *mesalliance* in thus marrying against the protests of her friends. The newly married couple retired to the country and the first five years of married life were passed in relative calmness. Valentine was a pretty, joyous creature, whose chief faults were extreme feebleness of character and a foolish fondness for her husband, to which was joined a marked *penchant* for sensuality. During her sojourn in the country she bore four children. After the death of Pishikoff's mother, who lived with them, his character changed, little by little. Surrounded by coarse, brutal peasants, he lost his quiet good humor. His disenchantment and the use of brandy, which he consumed daily in large quantities, aroused in him a strange hatred, based on her alleged amours ere marriage. He became irascible and pounded his wife, then pregnant for the fifth time. He wished to learn anew all the details of the past of his wife. In the present he could find in her solitary life no pretext for jealousy. He tortured his wife until, to end her sufferings, she avowed everything her tormenter dictated. Then the blows were redoubled because she had kept the secret from him so long. In the short intervals between these atrocities the two gave themselves up to very voluptuous caresses, which had certainly a pathological factor, sadistic on the part of

the husband and probably passivistic* on the part of the wife. This hellish existence had a terrible end on the night of May 15th, 1885. Pishikoff had been drunk from morning to night for several days previously. He overwhelmed with cynical, coarse reproaches, his wife already far advanced in the ninth month of pregnancy. In the morning of May 15th, he broke her nose with a blow. In the evening, when alone with her in their room, he ordered her to undress and began to cowhide her. The unfortunate, clad only in a chemise, threw herself on the bed and sobbed in a low voice so as not to alarm her children, lying in the next room, who, however, trembled and cried without understanding what had occurred. When the servants wished to force the door he forced them away with a loaded gun. In the intervals between his brutalities, he lay down, drank brandy, smoked a cigarette and then began anew to lash his wife, crying, "This for your amours with X———, that for Y———, that for Z———." She lived till morning, after having received three hundred lashes, and finally expired, crying, "Pardon! pardon!" The case was tried September 9th, 1885, by the jury of Balkow district. The medical expert who examined Pishikoff found nothing abnormal, pathological, nor any perversion whatever, unless it were this terribly bestial cruelty which had been produced by tardy jealousy and rendered Pishikoff insensate. He was condemned to perpetual hard labor. Capital punishment has not existed in Russia for more than a century.

Anæsthesias and Paræsthesias of Jealousy.—As there exist persons jealous to exist, so there exist others who are indifferent on this point whether from coldness of temperament or from moral depravity. I shall pass over in silence the trade of the blackmailer who profits by the prostitution of his wife or mistress. Absence of jealousy is a natural consequence of this shameful traffic. There are noticeable, however, other anomalies of a pathological character which are easily explicable by disorders during sexual evolution in the child and adolescent. Modesty and jealousy are sentiments—are necessary elements of a normal amour. Unfortunately, there exist in modern life

* See ALIENIST AND NEUROLOGIST, 1893.

many conditions very harmful to their regular development. Among the most dangerous are masturbation, onanism and pornographic reading.

Onanism is fatal because of complete moral isolation in which it plunges the man given to this vice. To him is lacking the most necessary element of love; he lacks the real being of a woman which he attempts to supplant by chimeras and phantoms. The voluptuous sensation is produced in him under abnormal conditions; it is accompanied by a polyideac state in lieu of an aideac one, as in the normal state, where the real sensation is so strong as to afford no place for play of imaginary lubricity. Masturbation produces expansion of egotism. Little by little, follows the habit of regarding the physical pleasure as the end without regard to the female from the pleasure to be procured. Bourget says on this point:

> The evil habits of youth appear under the form of abominable vices in the man as he ages. It is very probable that almost all the neuroses have their origin in erotic disorders and these last originate in the bad hygiene of puberty.

From his relations with prostitutes the young man arrives at the same result. No jealousy is possible here. The society of prostitutes tends to extinguish modesty and jealousy. No jealousy can survive in the heart of a man when he knows that the female who to-day belongs to him is public property, belonging each day to new lovers. He can regard her but as an instrument of voluptuousness, as a simple machine for pleasure, of which it would be ridiculous and impossible to become jealous.

Pornographic readings finish this destructive work, which may be designated, "denudation of the roots of love," and consists in the separation of the sentiment of love from its most necessary and elementary associates.

Jealousy and Modesty.—A similar anæsthesia of jealousy is found in libertines whose deepest punishment consists in this moral isolation. Nothing is so poor, so

fading, so rapidly spent, so fleeting as pure volupty. Tormented by their insufficiency, the libertines seek to decrease it and then a certain perversion of jealousy may secure for their sated sensuality some new excitation. Moreau* says in this respect that;

> Venereal excesses affect at the same time all the senses. This cerebral and sexual organ excitation kills the moral element of passion love properly so-called. Sexual insensibility may still preserve some energy; needs and appetites may still make it felt, but to satisfy it the excitants of former days no longer suffice. Morally and physically recourse must be had to extraordinary and impossible sensations such as formerly would not even be conceived. It is no longer the emotional element of love which is in play but the intelligence, which regretting the pleasures of which it retains the remembrance, endeavors to recreate it under any form soever.

Amongst these forms may be at times observed a strange anomaly, which consists in finding pleasure in the complete annihilation of jealousy, in dividing the amours with a rival. A singular excitation is produced among such debauchees by the image of a woman copulating with another man; this luxurious vision fascinates and reanimates them. It has often been remarked that the unfaithfulness of a loved female increases desire, as Bourget says:

> The image of the caresses lavished on a rival reawakens, with extraordinary acuteness in a man, the remembrance of similar caresses lavished on himself. By a singular detour this remembrance acts like a luxurious dream and jealousy leads to *desire*.

In one of Belot's romances I have encountered accidentally an interesting episode. A libertine enjoys volupty in assisting unseen at the amorous play of his mistress with an adorer attracted expressly by her. The mistress plays the comedy of love with this adorer, but at the decisive moment, chases him on some pretext, and her lover finds peculiar satisfaction in this spectacle. Albeit this example is drawn from a novel, yet I have no doubt whatever but that a veritable prototype had

* "La Psychologie Morbide."

been observed by this spirited writer, whose books contain excellent psychological types. There certainly exist debauchees who seek excitation in a spectacle of coitus performed before them. In works on contemporary prostitution* may be found abundant details anent a class of females who give lubricious representations at the instance of amateurs in the secrets of aphrodite, who seek to excite their sated senses by the spectacle of the passion of another. This perversion Möll† denominated mixoscopia. It had already been mentioned by Suetonius,‡ who states that Tiberius, at Caprea, had young men and girls, called Spintrii, copulate before him to excite his failing desires.§

In the same line with mixoscopia is polymixia, in which the spectator finds a voluptuous enjoyment in the sight of a female who gives herself to several lovers at once.

Paræsthesia of jealousy attains its height in certain cases of passivism, where the passivist enjoys an atrocious pleasure in seeing his beloved enjoyed by another more favored than himself. Bourget thus makes some allusions to this :

> To love with the heart is to find the supreme happiness in the absolute gift of one's self, in complete self-abdication and then the pain even that the loved object inflicts becomes a joy. To a lover who loves with all his heart, known unfaithfulness has this sweetness—it enables him to evince his love in pardon.

My study of passivism, published last year,‖ contained a detailed description of this pathological state. Therein was mentioned the writings of the German romancist, Sacher-Masoch, who describes the most perfect type of passivism which can be imagined. The most celebrated of his stories, "Venus in Furs," portrays a young, ele-

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* Carter. "Les Deux Prostitutions." Coffignon. "La Corruption a Paris."

† "Die Contrare Sexualempfindung."

‡ "Lives of the Twelve Cæsars," Clarke's Translation.

§ It is also described by Petronius.

‖ ALIENIST AND NEUROLOGIST, 1892. It is the Masochism of Krafft-Ebing.

gant, spirited man, who voluntarily becomes the lackey of a cruel mistress. He receives kicks, lashes, poundings. He experiences a strange volupty at the sight of a rival who has obtained the favors of his adored. Far from being jealous, he continues to receive blows, kicks and lashes even from the hands of his favored rival and finds therein a strange mixture of pain and joy.

I shall not discuss here whether all the morbid jealous are always pathological. According to the sage, judicial remark of Krafft-Ebing, the perversions of the sexual instinct should not be confounded with the perversities of the sexual act. The latter may be altogether independent of psychopathological states. A perverted act, however monstrous, does not suffice. To decide between disease (perversion) and vice (perversity), the totality of the personality of the affected individual and the motives of his act must be considered. I do not wish to cast the mantle of irresponsibility over crime and shame, but the nature of certain anomalies is such that the question of insanity requires exact and careful scientific investigation. In concluding this study, unfortunately so incomplete, I must beg my readers to pardon any shock to their delicacy. I can but repeat with Chevalier that in such a subject two extremes are to be avoided, timidity and obscenity. I have turned to neither, but kept the golden mean, taking science as a guide. Dwelling constantly on the soil of science, that is to say, to be at once complete and chaste, has been my constant care. An old adage says correctly, "Science, like fire, purifies all it touches." To this I may add the profession of faith of the celebrated forensic physician, Tardieu:

> No moral or physical misery, however corrupted, should frighten those pledged to the study of man. The sacred office of the physician (and of the judge also), which obliges him to see these things, permits him to speak of them.

The day will doubtless come when a scientist more competent than I, shall more completely discuss the

present topic. I shall be completely satisfied if my present observations prove useful in the serious study of jealousy. A similar study will certainly clear up a little the mysterious nature of this passion, which constitutes always a necessary element of normal love, but which becomes at times so terrible that we may well exclaim with the poet:

> Good heaven, the souls of all my tribe,
> Defend from jealousy. —*Othello.*

The Sensory Symptoms in Three Cases of Syphilitic Spinal Cord Disease.

By Frank R. Fry, A. M., M. D., St. Louis,

Professor of Diseases of the Nervous System, St. Louis Medical College.

ERB has proposed to formulate a symptomatology of what he calls syphilitic spinal paralysis, believing that a special type is to be recognized under this head, the characteristics of which are as follows: 1, The usual symptoms of spastic paraplegia, with its peculiar gait, carriage and movements. 2, The reflexes are very much exaggerated. 3, The muscular contractures are slight compared with the exaggeration of the reflexes. 4, Involvement of the bladder. 5, A slight but distinct disturbance of sensation. 6, Gradual onset of the disease. 7, A decided tendency to improvement.

At a recent meeting of the New York Neurological Society, Dr. B. Sachs read a paper bearing on the subject, presenting the histories of four cases of syphilitic disease of the cord. He said that while he did not mean to dispute the existence and the propriety of establishing Erb's type of spinal disease, he believed there were other and broader points of diagnosis which should not be disregarded, and that the following points had impressed themselves on his mind as the more characteristic of spinal cord syphilis: 1, The usual distribution of the disease over the greater portion of the cord, involving in some cases the cervical, lower dorsal and lumbar enlargements. 2, The relatively slight intensity of the morbid process as compared with the extensive area involved, as evidenced by the preservation of some of the functions of the cord with complete loss of others. 3, A rapid dwindling of some of the symptoms and a very chronic persistence of others. 4, The very frequent history of

other symptoms pointing to specific disease in the same or other parts of the central nervous system.

In the discussion of Dr. Sachs' paper, Dr. E. C. Seguin remarked that the irregularity or lack of completeness of the symptom group is very characteristic of these cases. The correctness of Dr. Seguin's observation must have impressed itself upon anyone who has seen and studied a number of cases of spinal cord syphilis. Some of them will strongly simulate tabes, others ataxic paraplegia, others ordinary transverse myelitis; yet with an absence of important symptoms, which not only excludes them from these groups but often as well raises the suspicion of syphilis. In other words, the symptomatology of certain spinal cord cases, aside from other evidences, may become to the eyes of experienced persons presumptive evidence of the syphilitic origin of the disease. If this be true, the advantage of formulating, if possible, these symptoms, is apparent.

The following cases became first grouped in my mind on account of the parallelism of sensory phenomena shown in them, and I prepared to report them, hoping they would possibly become a small portion of a series of such cases which may be recorded from various sources; for they reminded me of other cases seen from time to time, but not carefully enough recorded for publication, where the sensory symptoms have, as in these, attracted my attention.

Besides the sensory symptoms, however, it will be seen that they afford other features pertinent to the above subject, and I venture to offer them without further comment as a slight contribution to its study.

Case I.—James S., æt. 38. First examined July 29th, 1890. Had never had an illness of any moment during his lifetime until ten years ago, when he contracted syphilis.

Without going into details, will state that the evidence of syphilis in this case and the other two cases here reported is conclusive in each instance.

In this case there seems to have been a fairly thorough treatment by an intelligent physician for the first year of the disease, followed by a visit to Hot Springs. No symptoms were remarked by the patient after the disappearance of the secondary eruption. He consulted me on account of pains in the lower extremities. These he described as being sudden and darting and often so severe that he would almost fall when struck by one of them, experiencing at times a sick, weak feeling; they caused him at times to cry out on account of their severity, and even awakened him from sound sleep at night. He had felt slight pains in the leg, off and on, for the past four years, but these severe, sudden pains for the past two months only. They were rapidly getting worse and invading higher, so that they were occasionally severe half-way up the thighs.

On physical examination the knee-jerks were found to be entirely absent, plantar reflex present but not lively, slight dartos reflex, pupillary reflex normal, vision apparently as good as ever. (A subsequent ophthalmoscopic examination revealed nothing abnormal).

With heels together and eyes closed he swayed somewhat but never fell, could walk backwards with eyes closed without falling. Co-ordination of upper extremities perfect. Sensation normal in all portions of the body above the upper third of thighs. Below that point tactile sensibility very slightly, if at all, impaired; could describe accurately any portion of the legs or feet lightly touched by the finger of the examiner, naming promptly, for example, the toes touched no matter how lightly. In the same regions, *i. e.*, from about the upper third of the thigh down, temperature and pain sensibility almost *nil*, entirely so in legs and feet; could not tell the difference in temperature between test-tubes of very hot and ice-cold water. From the lower third of thighs down we could transfix the skin anywhere with large needles without causing any sense of pain whatever. Could describe accurately the regions where these various tests were made. He said that he had noticed at least a year before that when bathing he could not tell hot from cold water on his feet and legs. With closed eyes he could describe accurately the positions in which his lower extremities were passively placed, and on his thighs could tell differences of weights of less than that of a silver dollar. No evidence of paresis

in any portions of the body. Felt as strong in walking and ascending stairs as he ever had been. No trophic changes.

Stated on inquiry that only recently he had occasionally noticed a slight hesitancy in beginning micturation, not enough to occasion him inconvenience and he had paid little attention to it.

Stated that he had never been a drinking man; that he had always had strong sexual desires and had gratified them abundantly; the desire remained the same but the power to gratify probably not so good for the past year or more.

The treatment consisted of rapidly increasing doses of iodide of potash with daily inunctions of mercury.

At the end of ten days he felt confident that the pains were less severe and not so frequent. At the end of a month he rarely felt any. They had disappeared entirely at the end of two months when he was taking 240 grains of iodide, t. i. d. He tolerated the drug better than any patient to whom I have ever given it, and during the first year he was under my care, it was several times run up to doses of the size above mentioned and continued at the same rate, and even a little more, for two weeks at a time.

One year after first examination I found on careful examination that the line of demarkation between normal sensibility and that of pain and temperature defect had ascended to a point a little below the level of the crest of the ilium on an average, the line ranging a little higher and less regular behind than in front.

A little later than this an incident occurred illustrating the total absence of pain sense. A twenty-pound weight, used for securing his horse fell on his great toe, mashing it badly so that it bled freely. He felt no pain whatever, but on removing the boot and stocking and seeing the amount of damage done he almost fainted from the sight of it. His foot became much swollen, but caused him no uncomfortableness. It finally healed kindly.

April 21st, 1892 (almost two years after first examination), he came after an absence of several months, stating that he had been getting along very well until the previous day, when his bladder had been several times suddenly and involuntarily evacutated, saturating his clothing so that he had to go home and remain there.

He also stated that on the two previous mornings he had been suddenly seized on rising, with an unaccountable vomiting and coughing spell, so that he feared that he would choke or suffocate to death; could hardly describe the feeling but was alarmed and worried about it. Had felt some slight sharp pains in the legs recently, but claimed that extra doses of iodide of a drachm each for a few days would cause them to subside. General condition first-class, weighed more than ever before in his life.

The involuntary emptying of the bladder continued for a few days, but he soon regained a fair control; ever since then, however, he has had to hurry to relieve himself when he felt an inclination to urinate. He remarked to me at this time that sexual power was rapidly failing him. For some time I did not see him frequently, and he was irregular in the use of medicine, until January 3, 1893, when he came greatly discouraged and disgusted from the fact that there had been a repetition of the urinary accident. He has since been wearing a rubber urinal, although after two weeks' time there seemed to be little need of it, as since he generally had sufficient warning to relieve himself in the normal way. He also stated that he had experienced some repetition of the vomiting and choking symptoms, but not so severe as on the former occasion, although it occurred a number of times during the year. Since the last mentioned date he has been taking the iodide regularly.

Early in February at two different times, four days apart, I was called to his residence to find him suffering violent pain, confined to the right lumbar region. There was no tenderness on pressure. The pains were violent for a few hours, then disappeared abruptly and entirely.

On the 15th of February he came to my office complaining that his left leg was so weak, heavy and numb, that he could hardly walk. He walked with a decided toe-drop, and there was an evident paresis of the extensors of thigh and leg; he could not raise the toe from the floor, the foot resting flat, and in crossing his knees lifted the affected limb over its fellow; could only walk a short distance before it gave out. After a week's time there was a very apparent improvement until within three days of present writing (May 25), when there was a sudden relapse of the paresis to almost its original intensity.

On examination, February 15 last, I found no important change except that the line of separation between

normal sensibility and that of pain and temperature defect has ascended so that it reaches about to the fourth dorsal vertebra behind, and almost to a corresponding height in front, save that there is an area about four inches wide, on about the level of the umbilicus, on the left side, reaching from the medium line in front to the medium line behind where pain and temperature sensibility is throughout only slightly disturbed.

Case II.—Clara R., æt. 40. December 1st, 1890, made first examination of the patient. Found knee-jerks entirely absent, plantar reflexes considerably exaggerated, pupils reacted normally. Ophthalmoscopic examination, a few weeks later, showed only slight refractive errors, otherwise eyes normal.

With heels together she would fall immediately on closing eyes. With feet separated could keep her balance a little longer, but ultimately fell. In attempting to step either forwards or backwards with closed eyes she fell.

Tactile sense intact in all portions of the body. Could name promptly and correctly the toes touched by aid of tactile impressions alone, and also any portion of the lower or upper extremities or trunk. Pain sense seemed totally lost from lower third of thighs down in both extremities and much obtunded from that point up to the waist line (more so below and gradually shading off to above mentioned level.)

Temperature sense very much disturbed in same regions as the defect in pain sense, but in no place entirely absent. In these regions the test-tubes required to be very hot and very cold for her to distinguish the temperature of them, even then she occasionally made mistakes, calling the hot, cold and *vice versa*. There was also a remarkable delay of temperature sensation.

There was a symmetrical paresis of the lower extremities. Her lower extremities were relatively very much weaker than the upper. It was the rapidly increasing weakness in them that led her to consult us. She could not walk a block without sitting down to rest several times. When kept standing for some time she got very shaky in her legs (knees).

She stated that she had been having some sharp darting pains in her feet, legs and thighs, that they were getting worse all the time, but that the paralysis

was increasing more rapidly still. The pains came in spells. Upon inquiry, stated that for the past few months she had experienced some trouble in holding her water, generally for a few days at a time.

She stated that she had contracted syphilis from her husband eleven years previously. Aside from the disturbances of nervous system there was no existing evidence of the disease, except a perforation of the nasal septum, which had occurred about three years after date of infection. There was a plain history of primary and secondary lesions.

March 9th, 1891, three months after commencement of treatment, very much improvement in co-ordination and in muscular power of lower extremities, as well as in her general condition. Could stand with eyes closed without falling and walk three or four blocks without resting. The treatment had consisted of mercurial inunctions and iodide of potash. Up to this date we had not been able to give her over 12 grs. of the latter, as she tolerated it very poorly.

June 29th, 1891, six months and a half after beginning of treatment, she walked a distance of twelve blocks to the clinic. In standing with eyes closed swayed a good deal but did not fall on frequent trials; also walked backwards with eyes closed. Pain sense not improved, temperature sense somewhat so, but a great deal of delay in conduction.

November 20th, 1891, seemed to feel pin pricks in upper thighs somewhat better. Had got the iodide up to 20 grs. This was the largest dose of the drug we were ever able to give her, and it could not long be maintained at that rate. We had no better success in giving her iodide of sodium. We frequently gave her the syrup of the iodide of iron, which seemed to benefit her generally.

February 17th, 1892, fourteen months after we first saw her, she was very much weaker again, walking difficult, confined to house.

May 18th, 1892, still poorly, complained of stiffness and startings of the lower extremities at night.

July 18th, 1892, the last time I saw her, the plantar reflexes were very lively, the knee-jerks absent, sensory symptoms little if any changed, co-ordination as poor as when she first came under observation, able to walk with difficulty about two rooms, complaining of a very

annoying but almost indescribable paræsthesia in the feet and legs, almost constant difficulty in passing water.

No trophic changes.

Case III.—C. M. T., æt. 39. January 11th, 1893, first examined by myself and assistant at the O'Fallon Dispensary of the St. Louis Medical College. He walked with a decidedly spastic gait; the knee-jerks and plantar reflexes markedly exaggerated, slight right ankle clonus, other reflexes normal except slight exaggeration of those at right angle of mouth; with heels together and eyes closed difficult for him to keep his balance, but did not fall; co-ordination of upper extremities good; complained of being weak and shaky in his legs, and of some aching in same but no sharp pains.

From about the level of the umbilicus down the pain sense almost *nil;* in upper portion of this area could sometimes appreciate the prick of a pin, but in the thighs and legs transfixing the skin caused no painful sensation; the temperature sensibility in same area almost equally defective, and especially in the legs almost *nil.* In the same regions could accurately locate slight tactile impressions, naming perfectly well the toes touched, etc., save in a narrow area on outer side of right leg, from knee down, where the tactile sensibility was also somewhat defective.

Patient did not think he was weaker in right arm and leg than in opposite members; dynamometer shows right hand equal to left.

He gave the following history: Contracted syphilis eleven years ago, diagnosis of which had been made in the secondary stage at the O'Fallon Dispensary, where he was treated for the disease a short time only. Since then he had received little and very irregular treatment; had been to Hot Springs for one month in 1889 (nodes found by us on shins and clavicles.) Three and one-half years ago he had been suddenly seized with a right hemiplegia, was at no time unconscious, but had no use of himself for about ten days, then gradually recovered control of paretic members; had specific treatment from an intelligent physician at that time, but when able to get around, in course of several weeks, stopped treatment; since then memory not so good, more irritable and excitable than formerly;

some thickness in speech, noticeable to patient and others; deaf in right ear, cannot hear watch in contact with right auricle.

He has been under our observation since January last. The iodide has been increased until he is now (May 30) taking 190 grains, and still tolerating it perfectly. There seems to have been some slight improvement in the temperature sensibility; co-ordination is certainly better; his general condition and appearance has improved. He has gained five pounds during this time and has improved apparently in general strength.

Vision fairly good. An ophthalmoscopic examination shows the fundus of both eyes normal.

No trophic changes.

Contribution to the Study of Transitory Mania.

By Salemi Pace and Miraglia, Italy.

[Abstracted from *Il Pisani Gazetta Sicula*, by Dr. H. Toeppen, St. Louis.]

MENTAL infirmity that excludes consciousness and self-determination is the only psychical defect that is recognized by the new Italian *Codice Penale* as diminishing or annulling the responsibility of a criminal for his act. A new illustration of the insufficiency of this standpoint of legislation is given by Salemi Pace and Miraglia, in Vol. XV. of *Il Pisani Gazetta Sicula di Scienze Mediche e Psicologiche.*

The case, upon which the experts were called to give their opinion in July, 1892, is related by Salemi Pace as follows (in outline): The defendant, Giu—— Ben——, 32 years old, a field-guard by occupation, had been in love since 1885, with Car—— La Ro——, then scarcely fifteen years old. The passion was a mutual one. In 1887, the girl was sent to the Female Institute at Piazza Armerina, to prepare herself for elementary teaching, the municipality bearing the greater part of the expenses. The relations with Giu—— were kept up, the young man, a poor scholar himself, using the help of a friend for answering the letters of his sweetheart. He also managed to see her once in a while. During the vacation of 1889, the relations became more intimate, the lover, taking advantage of the absence of the mother one evening, succeeded in deflouring the girl, "through promises and mild force." After this first step the embracements naturally were repeated on different occasions. It seems that the girl resented the violation of her chastity, perhaps at the same time beginning to consider the illiterate man no suitable match for herself.

When she left the institution in July, 1891, she did not hestitate to give Giu—— to understand that she had changed her mind. She first asked for two years' delay, but later did not try to conceal her true thoughts. Then Giu—— began to complain about her and to threaten her. He objected to her living in a house belonging to a certain midwife, being jealous of some man living in the same house, and showing to the landlady's son a razor, which he said he would use to cut Car——'s head off, if she did not do as he desired. Another time he saw her in the same house, and when she asked him what he would do if she did not marry him, he grasped her neck and tried to use the razor, but was kept from doing so by the midwife and her folks, and was put out of the house. The girl then saw the Mayor of Barra-franca—the town that had supported her while she was studying—and told him that she did not want to get married to Giu——, nor to any other man, that she might be able to follow her vocation quietly and to save some money. The mayor summoned Giu—— and admonished him to behave himself. Giu—— insisted on their intimate relations of two years' standing, and asked her if he might be permitted to marry another girl. She gave him perfect liberty in this respect. Some time after this, Giu—— sent a friend of his to see the girl and to ask her to return the presents that she had received from him. A day was fixed for this, and when Giu—— saw some of the objects—a ring and some wool for a mattress—*he had an attack of delirium,* beating his head with stones in a most pitiable fashion. On the 7th of September, Giu—— saw the girl in the house of some friend and told her in a threatening manner that seeing her married to another man would drive him to murder her and then to kill himself. A month later he entered her dwelling by force, wounded her with a knife, and escaped. He was tried for this, but not punished, the girl forgiving him and not insisting upon rigorous measures. The passionate lover then seemed to quiet down,

and on the 9th of April he married another girl, named Deli——.

But he could not forget the object of his first love. On the 3d of May, she passed his house in a religious procession, with her mother, and leading the little daughter of a lady friend of hers by the hand. Giu—— was standing on the balcony, with his young wife, his brother and his sister-in-law. He suddenly leaves the balcony under an excuse, runs out into the street, grasps the girl by the shoulders and hair, throws her down and plunges a razor into her neck several times, as if he were trying to cut off the head of an animal. The victim only had time to cry "He is killing me!" and then lay there apparently lifeless. Her mother tried to assist her, but was wounded too, the assailant then turning to the girl again. The bystanders now threw themselves on him and prevented him from severing her head from the trunk. When he was arrested and led away, he licked his hands and exclaimed: "Oh, how sweet is the blood of the virgin!" To those asking him why he did such a horrible thing, he answered: "It had to be done; either she is dead to-day, or she will die to-morrow, or some other day; it is only a question of time. If she is dead, I am satisfied. If not, I am sorry and in despair." In court he claimed to have perpetrated the deed unconsciously, because he had been betrayed, or rather abandoned, by his lover. He mentioned that he had had carnal intercourse with her, and that he had helped to support her during the time of her studies. His hand was found wounded after the struggle. This was done accidentally, he said, either in using or in closing the razor. At another cross-examination the assailant made some statements that differ from the facts as given in the above history, claiming that the girl quarreled with him because he had shown her letters to a couple of his friends, and that she tried to stab him with a knife, after calling him many bad names. He then hurt her slightly with the same weapon. He also claimed that the girl's

mother placed obstructions in his way when he tried to marry another girl. About the assault itself he deposed as follows: "She looked at me, and then she was insolent enough to spit at me. At this moment the clouding of my mind was such that I am unable to describe it; but by-and-by I quieted down, thinking that I intended to live quietly with my wife. I thought it was better to leave the house and go for my mother-in-law, that I might have more company; but on my way I met with Car——, who spit at me again and then pulled out a razor or knife—I did not well distinguish what kind of a weapon it was—in order to assault me. Then—either in order to defend myself, or because I had lost my senses—I turned against her and hit her with the same weapon. I do not know if I hit the mother too." About the wound he received himself, he said this time that he did not know whether it had been inflicted by himself or by another person.

The family history of the defendant was furnished by the physicians of Barrafranca. It was found that a brother of his mother, a physician, was affected by mental alienation of a mild kind, and died in 1885, after having led a miserable life for many years. Another of his mother's brothers had alienated sons; two of them suicided; a third one is given to vagrancy and uncleanliness and unfounded complaints. Defendant does not proceed from a consanguineous marriage, nor were his parents of very advanced or unequal age. It is not known whether his mother had any violent emotions during the period of pregnancy or lactation. He lost his parents when quite young, and was brought up by some relatives. Being industrious and parsimonious, he soon began to work for himself, trying to get work in the fields and on the highways. He always was of a gay and jovial disposition, and much given to serenading with the guitar. It is not known if he had any disease previous to the assault, "except a kind of madness when thinking of a betrayed love."

The physical examination of Giu—— revealed the following facts: He is well built; the skeleton is normally developed, the nutrition poor, the muscles flabby, the adipose layer thinned out; height 1.55 m., weight 55.5 kg. His skin is of an earthy color in the uncovered portions, pale under the clothing. The hair is black and normally developed, but scanty, especially in the region of the occipito-parietal sutures. Over the forehead it forms a sharp, tuft-like projection. On the right parietal eminence there is a spot of beginning baldness, produced by *trichophyton tonsurans*. The head is roundish, slightly flattened in the region of the right occipito-parietal suture, and a little asymmetrical by greater prominence of the left parietal bone. The face is symmetrical, very thinly covered with hair in the normal places; the folds of the skin are little marked. The eyes are normal, but slow in their movements. The color of the iris is olive green. The nose is straight, the mouth is rather big, the lips pale, the teeth good. The hard palate is a little more excavated than a normal palate. The neck is long, the sterno-cleido-mastoid muscles thin, the jugular veins little visible. On the forehead there are three scars, and a fourth one is seen on the left supraorbital arch. These were produced by the blows that he inflicted on himself with stones when his presents were returned to him, as mentioned above. The circumference of the head is 54.7 cm., the facial angle 74°. G. is dolichocephalic, the posterior half of his skull is a little more developed than the anterior, and the left more than the right. The thorax is of cylindrical form; its examination does not reveal any pathological conditions, except weak respiratory sounds and a few râles over the right apex. The pulse is 68; the heart sounds normal. The area of liver-dullness is normal, that of the spleen a little enlarged. The abdomen is a little prominent; on the left side there sometimes is a hernial protrusion through the inguinal ring. G. is suffering from habitual constipation, and eats with little appetite. Temperature and secretions normal.

He does not sleep much and sometimes has dreams; but there is no sleeplessness or nightmare. His former sweetheart is the object of his dreams. The mons Veneris is covered with hair, the penis is poorly developed, the testicles are of equal size. There are no tattoos on the body. Nothing remarkable about the nails or other parts of the body.

The tactile sensibility is somewhat diminished. The two points of a Weber's compass are felt as one all over the body, until a distance of 19 mm. is passed. At 20 mm. they are felt distinct on the palms of the hands and on the dorsum of the left hand; at 35 mm., they are felt distinct all over the body. The baric, thermic and dolorific sensibility is normal. The other senses are normal. The reflexes of the skin, mucous membranes and iris are normal, the vasomotor reflexes weak. The mobility of the neck is a little impaired by recent rheumatism; the gait is slow and heavy. There are no tremors, spasms, convulsions, nor any paralysis. The speech is normal. His knowledge of writing is limited to signing his name. The dynamometer registers 35 kg. under the right, and 32 under the left hand. He thinks logically but slowly; the questions have to be repeated several times. The memory is good. When examined by the medical experts, he added to the history of his crime that the girl was supposed by him to favor another man after her return from the institution, and that he knew her to go to sleep in the second story of the midwife's house, although her rooms were in the first story, the young son of the landlady sleeping there. She also continued to go to this house after he had induced her to room at another place.

G. not only found out that she no longer loved him, but tried to avoid him as much as possible. Yet his passion for her continued, and even after his marriage he would call her name in his dreams, and every day, he says, he passed under her balcony, and if one day he did not see her, he felt like dying from unsatisfied desire.

About the assault itself he told the experts a story somewhat different from the one given above, saying that he had a razor that he was just going to have ground and that he does not know what happened after he had descended the steps. When asked why he had tried to cut off the head of a woman whom he still loved, he said that if he had intended to kill her he would have used a fire-arm. He also said that he wounded the mother while trying to get rid of her, who was assailing him from behind. He was able to show in what position he was when trying to butcher the girl, and what movements he had to make when trying to shake off the mother. About the history of his previous life he added to the facts given by the physicians that he had had malarial fever, typhoid fever, occasional headache and abdominal pains.

The defendant was found to be perfectly conscious of what he was saying and doing; he considers himself a victim of betrayed love and of outraged honor; his ideas follow each other logically, although sometimes slowly. Sometimes they are confused. His egotistic sentiments are not much developed; the erotic are more so, religious feeling is present. He is perfectly able to distinguish good and bad, right and wrong. He appears well-behaved, quiet, industrious, docile and moderate in his desires.

It is seen from these statements that there is ample ground to doubt whether G. was to be held fully responsible for the act of assaulting the woman that rejected his faithful love. He had had diseases that are known to be powerful predisposing causes of mental disorders, viz., malarial fever and typhoid fever, and he belongs to a degenerated family, as is shown by the medical report and by the physical examination of the defendant. There have been drunkards, suicides and maniacs in his mother's family. The patient's skull is small and asymmetrical, the apex of the right lung is affected, the functions of vegetative life are depressed, the sensibility is diminished, the

face is expressionless; the ideation poor, the mental activity deficient. He evidently stands outside the limits of normal psychical life, and is an individual of little cerebral resistance against stimuli, instincts and passions, unable to guard himself against grave catastrophes, which persons of ordinary mental equilibrium escape by co-ordinate acts of reflection and volition. The act of defloration of his inamorata is a proof of this; for, whether he used force or not—her possession forever appeared sure to him then, and if he had had full control over himself, he would not have exposed her to the possibility of dishonor and shame before the world. What must have been the condition of mind of this man when after seven years of faithful love and of bright hope, he found out that the girl—his wife "before God"—betrayed him for another man, the young son of the woman with whom she lived after her return from Piazza Armerina? The outlook for a bright and happy future is destroyed forever, and the poor degenerated brain is left a prey to two of the most powerful passions, love and jealousy, thus predisposed to the gravest psychical and corporeal disturbances that may be called forth by any deep emotion or affection. The ordinary criminal prepares himself for his crime, he studies the means to perpetrate it, and tries to do anything to escape the juridical consequences. G., it is true, had menaced the life of the girl several times, but he managed to keep from doing a rash act. He first tried to regain her love by persuasion and then, as much as was in his power, to forget her, marrying another girl. Yet the old passion, powerful by its intensity and duration, persisted. This was proven by the facts, not alone by the defendant's statements, which might have been made with the intention to escape punishment. He never tried to deny the crime.

What may have passed in the poor fellow's mind when he saw the girl passing under his balcony, in her best attire, adorned for a solemn procession, more beautiful and seducing than ever? The pictures of a happy

life in the past, the destroyed hopes of a bright future, the passionate love, rekindled by the sudden appearance of its long adored object, the intense jealousy,—all this unbalanced his mind, made the blood rush to his brain, obscured his conscience and made him fly down the stairs and throw himself at his victim. An important circumstance, which speaks for the defendant, is the scene and place of the assault. A man acting with full conscience and premeditation would not have selected the day of a religious procession for his crime, and would not have perpetrated the act in presence of a big crowd in the open street.

It could not be fully proved that—as G. claims—the girl spit at him; yet the other circumstances alone are sufficient to produce in a predisposed subject a terrible fit of passion, that may justly be qualified as an attack of *transitory mania,* a form of mental alienation of which several incontestable cases have been published lately.

Transitory mania is principally characterized by its sudden onset and termination. It comes perfectly unexpected, without any premonitory symptoms, and relapses are rare. It is mostly observed in young males that are hereditarily predisposed, and strikes them in what appears to be full health. During the attack, which may be provoked by a stimulus of any kind, there is obscured consciousness intense enough to do away with the reflex inhibitory influences of the brain. The psychomotor influences that are allowed their full sway under these circumstances are of a destructive, dangerous, homicidal type. The duration of the attack is from a few minutes to some hours, and the attack is followed by sleep and by complete amnesia of the event. Taking into account all the circumstances of the case, as described above, we are driven to the conclusion that G. was, at the moment when he committed the criminal act, the victim of an attack of transitory mania. G. had never before shown any signs of mental unsoundness, not even of marked eccentricity; he was of a gay disposition, a friend of music and entertainments, generally in good health.

Since his marriage with the other woman no incident had happened between him and his former inamorata, although his love for her was continually occupying his mind. On the very day of the deed he was perfectly quiet, no premonitory symptoms whatever having been observed. The attack came over him with the suddenness of an explosion. When arrested he confessed that he had hit the two women, but he claimed to have done so without any consciousness of what he was doing. It is not probable that he was not telling the truth at that moment, that he was lying in order to escape punishment, or to be treated more leniently. Being illiterate, he very probably did not know the paragraph of the penal code that exempts from punishment crimes committed without conscience. The duration of the attack was typically short.

There are two more characteristics of a typical attack of transitory mania left—the amnesia and the sleep following the act. About the latter nothing could be found out from the legal documents, and whether there was amnesia or not is doubtful. Before the judge, G. claimed to have no memory of the assault (as above), but before the medical experts he admitted the contrary. This incompleteness of the typical signs of transitory mania, however, does not seem sufficient to invalidate the theory of transitory mania in this case, just as little as the absence of one or the other characteristic symptoms in the ordinary bodily diseases can overthrow an otherwise well-established diagnosis. Schüle enumerates some clinical varieties of transitory mania, one of which he describes in the following manner: "We ourselves observed in a recruit—who was hereditarily predisposed—after great hardships and after an attack of acute gastritis, a very acute *raptus homicida*, followed by a condition of stupor, lasting for some weeks, but without anxiety and amnesia." The permanence, or deficiency, or absolute loss of memory, will probably always be found in proportion to the accidental degree of consciousness of the individual. There will be found gradations of memory corresponding

to the gradations of consciousness in pathological individuals. Memory is the registration of impressions received by the senses, of ideas, etc., in the receptory sensoral centers of the brain, which are recalled to consciousness by an adequate stimulus. According to the functional state of these centers, different kinds or degrees of memory will be generated. If now a morbid process affects the cerebral centers without rendering them altogether inactive, consciousness will not wholly be abolished, as it is in epilepsy and apoplexy. In the latter two the individual is perfectly unconscious, and consequently, deprived of perception, sensation, memory, etc. Between absolute morbid unconsciousness and normal physiological consciousness there are as many gradations as there may be gradations of morbid processes affecting the brain and its centers. And to the different degrees of consciousness different degrees of memory must correspond. This explains why, in the various forms of mental disease, we find the memory sometimes weakened, other times obscured or confused or completely absent, or, perhaps, better and more active than normally. We might say that in the alienated there is no real absence of consciousness, but a lack of the exact critical control that is found in a normally functionating brain, and which enables the individual to distinguish and properly appreciate his ideas, sentiments and actions.

This condition may have been present in G. The state of his brain allowed him to be carried away by the irresistible impulse that came over him. The valves of reason—so to say—were closed, his controlling cerebral centers were out of function, he is the victim of an affective impulse in a moment of diminished moral resistance.

"Justice," says Krafft-Ebing, "cannot, in such cases, compare acts committed under the influence of a powerful emotion to those executed during a condition of psychical quietude and equilibrium. There cannot be any responsibility for acts committed under the impulse of a pathological affection, the individual then being in a morbid state of consciousness."

INSANITY IN CHILDREN.*

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MOREAU DE TOURS† strikes with equal force and truth at a grave psychiatric error, which has done much evil to the race, when he points out that for many years pædiatric clinicians have denied that the child could be pathologically affected in its intellectual, emotional, or moral nature. It was usual to regard exceptional mental phenomena as eccentricities—as immoralities, or, as produced by defects of education and training, though physicians had for centuries reported cases inexplicable on these theories alone. The subject has been, however, forced into prominence of late by the agitation over school over-pressure. The psychological state of the normal child even is much misunderstood. Meynert ("Psychiatry," Sach's translation) with exceeding fullness and subtlety, thus outlines certain ignored factors of the evolution of psychological processes in the child:

> Kussmaul has shrewdly indicated certain perceptions and movements, common to the fetus in utero, which feeds itself, as it were, by swallowing amniotic fluid. He also indicates that there may be special motives, such as the more stimulating taste of the fluid after occasional depletion, into it of the allantois, which induce swallowing. Here then there are two alternatives. The fetus swallows, or does not swallow. Fetal consciousness is already presupposed, which would exist, however, under circumstances that give but little opportunity for perception. The new-born infant at once discovers signs by which it distinguishes between one set of perceptions and another. One set of perceptions helps it to define the circumference of its own body, another set belongs to the world beyond it. However obtuse this perception may be, though the child may at first not be able to discriminate between the various impressions of space, still it is certain that the child's perception of its

* Read in outline before the Section on Neurolo gy and Medical Jurisprudence, American Medical Association, Milwaukee, 1893.

† "De la Folie chez les Enfants."

own body circumference is established very early. Among other means by which it learns to distinguish between impressions received from its own body and the outer world are these: Contact of a strange finger with its own skin excites but one tactile sensation; contact between two parts of its own body excites two tactile sensations; one from the touching, the other from the touched part. Furthermore a number of strange auditory sensations strike the ear of a child, but only the sound of its own voice is accompanied with muscular sensations, and so the attendant muscular sensations help the children to discriminate between movements of its own body and any other movement it may see. There is no order of movements, which under the cover of instinct can be pushed in between conscious and reflex movements. The first instinct of a child would be the instinct for food, but the origin of that has been discussed. There is absolutely nothing in the sensation of hunger, which would acquaint the child with the means of remedying this pain. It attains naught but the concept of pain. In the general restlessness it displays and in the convulsions ultimately resulting from anæmia there is nothing which could be likened to an instinct for food. If the child has not to depend on its own resources, but has a nipple put into its mouth, then the sensation thus excited starts the reflex mechanism of sucking. The child has thus acquired the concept that the sensation of satiation is connected with the act of sucking, and these two sensory memories are associated with the innervation-sensations aroused by sucking and, probably, by the scent of the mother's breast. That a child should suck at every finger may be attributable to a reflex mechanism, but the sucking of the child in dreams proves that the act of sucking has produced images which have been registered in the cortex. The factors of this primary abstract ego are not definitely defined. * * * The nature of the ego does not depend upon any definite order of memories, but is determined simply by the most firmly fixed memories. * * * As soon as movements of aggression have taught the child to take hold of things it is evidently under the impression that it is living in a world of sweets; it takes everything to the mouth and licks it. A later aggressive movement—kissing—like the first sucking movements, is probably based upon the act of bringing an attractive object to the mouth. This latter movement is clearly dependent upon a powerful secondary presentation aroused by its impressions, just as the sucking movements during sleep denote secondary presentations excited in the course of dreams. * * * Space vision in the child excites movements of aggression, which aim at the possession of the thing it sees, but as it lacks the power of locomotion it has no conception of distance. These aggressive reflexes of the upper extremities are no more co-ordinated in space than the movements of the eyes are before the child has learned to see, and through irradiation these movements become general, leading to a tossing of the whole body, to kicking with all-fours and to cutting of grimaces. These movements, though extravagant, are not spasmodic, but must be regarded as results of cortical impulses interfered with by

cortical irradiation. * * * The acoustic nerve also takes part in reflex impulses; the child that hears others speak or perceives other sounds and noises has the desire to bring forth the same sounds and noises. As its cortical functions improve, it develops the secondary idea that the sounds which it brings forth are similar to those of ordinary speech. Wundt correctly remarks, that "the speech of animals consists of so-called sensory sounds, and this is true of children before they have acquired the faculty of imitating syllables. * * * In all aggressive movements the child over-estimates the possibilities of its powers. Experience and an improvement of the power of imitation correct these false conclusions. As soon as the child has reached the age when all cortical fibers acquire their white substance, purely reflex movements, and those due to irradiation, diminish in number. * * * In the child the expression of emotion may vary much. Under the influence of the apnœtic effect of functional hyperæmia attendant upon pleasurable emotions there will be movements of aggression bespeaking the force of the child's own personality, or there will be spasmodic movements of repulsion (due to irradiation), such as screaming and crying. All these expression movements, whether due to irradiation or not, dispatch sensations of innervation to the cortex, which sensations are there turned into "special memories" and serve later on as impulses starting the entire groups of movements, which are involved in expression. Consequently these movements of expression result primarily from stimulation of subcortical centers, just as simple forms of reflex movements serve as the foundation upon which the structure of more complex conscious movements is raised. As soon, however, as these irradiatory impulses, which excite the mechanism of expression, are put under control of an organ of motor co-ordination, they acquire secondarily a higher value as psychical factors of expression. In the child pleasurable emotions result in general movements of the entire body. Even in the adult who dances for joy or performs other extravagant movements, occurs a repetition of these primitive mimical movements of the child. * * * A state of excessive pleasurable emotion may pass into a condition of maniacal excitement as a result of dilatation of the arterial network of the brain, or a state of pleasurable confusion may end in a transitory swoon. * * * The doctrine that ideas are inherited, and are not the result of perception and association—that movements, even mimical ones, are the result of innate motives and have nothing to do with imitation and early reflexes, can hardly be applied to man. Not even the upright gait is innate; it is acquired with difficulty only through imitation and cortical co-ordination.

Perez states that anger appears early in children. In the first two months the child shows by movements of its eyelids and hands strong anger when the attempt is made to bathe it or take something from it. According to Fenelon, jealousy is much more violent in childhood

than is usually suspected. Bourdin claims that all children are liars, but he, however, ignores the fact pointed out by Meynert, that the weak inhibitions of the child prevent it from distinguishing clearly between the subjective and objective—between its wishes and its facts. Cruelty, as might be expected, is frequent in the child, not from any cruelty, *per se*, as claimed by La Fontaine and Montaigne, but simply because, as pointed out by Meynert, the feeble secondary "ego" does not as yet so dominate the primary "ego" as to enable it to recognize the feelings of other beings.

The child therefore gradually acquires a series of checks on its explosive tendencies and the egotism shown in the over-estimate of the possibilities of its powers. These elements underlie the mental state of childhood, which according to Moreau de Tours,* is characterized by an absence of reflection and self-control, by spontaneous and capricious actions, by dominance of immediate sensory impressions and absence of regard for the future, by desire for power and tyrannical use of it.

In a study of these phenomena, classification becomes a necessity, and the following, modified from Moreau de Tours, is an excellent basis for such study, especially when it is remembered that even the "pure neuroses" are in childhood often attended by mental symptoms. The classification of the psychoses is based on Spitzka:

Neuroses.	Convulsions.
	Nervous laughs
	Nervous coughs.
	Hiccoughs.
	Stuttering.
	"Tics."
	Neuralgias.
	Ecstasy.
	Hysteria.
	Chorea.
	Epilepsy.
	Somnambulism.

* "De la Folie chez les Enfants."

Psychic Types.

- Hallucinations.
- Anomalies of character.
- Aberrant sentiments.
  - Love.
  - Jealousy.
  - Anger.
- Imperative Conceptions
  - Pure.
  - Attended by impulsive acts.
    - Arson.
    - Suicide.
    - Homicide.
    - Alcoholism.
    - Theft.
    - Rape.
    - Non-criminal acts.
- Idiocy.
- Imbecility.
- Night terrors.
- Mania.
- Acute confusional insanity.
- Melancholia.
- Transitory frenzy.
- Stuporous insanity.
- Katatonia.
- Paranoia.
- Periodical insanity and hebephrenia.

The imperfect co-ordination of the slowly acquired inhibitions was readily upset, whence it occurred that states of uncertainty and resultant terror—"night terrors"—were the earliest morbid mental phenomena noticed in children. "Pavoar nocturnus" was described by Hippocrates in a manner worthy the clinical insight of the great physician of Cos. The emotion of fear, as Meynert has shown, characterized by greater excitement and attention, is probably the neurosis of a subcortical center (of the medulla) which defies cortical inhibition. Movements of flight may therefore be started by allied associations in the absence of real danger and even against the will. This underlies the conditions found in "night terrors" and explains the running which so frequently precedes epilepsy in children—the so-called epilepsia cursiva. The motor elements in childhood's neuroses are therefore not

so pure as they at first seem. The sensory inhibition which enabled the child to determine its own movements from those of others remain dormant, it is true, but still exist, to spring to the surface in case of constitutional disorder, not as inhibitions, but as sensory accessories. Among the earliest manifestations of morbid mental activity in children are hallucinations which depend on already registered perceptions. Hallucinations of all the senses may occur, but those of sight are most frequent; next, those of hearing, while taste and smell but exceptionally occur. These hallucinations are readily excited by simple causes, like indigestion, and are present in night-terrors, which are an intensification of the hypnogogic hallucinations that occur in many adults on awakening. In many instances even moral agencies produce sudden explosions of mental disorder.

The inherited tendencies of childhood predispose to these attacks. As Clouston has shown, neuroses and psychoses not requiring hospital treatment are by no means uncommon in the "too sensitive" child with hereditary taint. Children of this class take "crying fits" and miserable periods on slight or no provocation. These tendencies are aggravated by the results produced by the maternal mental state. The silly threats of mothers often cause such brief attacks. He has seen a boy of five become intensely depressed, cry and moan for hours because of the "hell" which its mother described as the portion of bad boys who tore their pinafores, sinned against God, and disobeyed their mammas.

In predisposed children subjective frights and unpleasant dreams originate persistent anxieties and hebetude. In such children, precocity, over-sensitiveness, unhealthy strictness in morals and religion for a child, a too vivid imagination, want of courage, thinness and craving for animal food are common characteristics. These children are over-sensitive, over-imaginative and too fearful to be physiologically truthful, and tend, under fostering, to be unhealthfully religious, precociously intellectual, sensuously

artistic and hyperæsthetically conscientious. He points out that what he calls "delirium of young children" is relatively frequent. "In most cases it is a pure delirium, without consciousness, attention or memory, but in some instances there are frightful hallucinations. In others, an excited melancholia of short duration. The same children who suffer from delirium at low temperature are those subject to night-terrors, chorea, epilepsy, hysteria, and even adolescent insanity (hebephrenia) in later ages."

Krafft-Ebing states that night-terrors are peculiarly frequent in neuropathic children.

Dreams, somnambulism and night-terrors, according to C. P. Putnam,* find their explanation in a loss of the higher and exaltation of some of the lower cerebral functions. The conscious life of the individual is in the realm of the higher functions, which exercise an inhibitory influence on the lower.

Steiner† believes that of the immediate causes of night-terrors and the resultant states, the most important are a bad mental training, ghost description ere retiring, and going to bed in the dark, all of which are calculated to stimulate the lively intelligence of children already timid and excitable.

In regard to the frequency, ætiology and types of the various psychoses and neuroses, there is much variance of opinion. The frequency with which chorea occurred among degenerates led to an expression of opinion that all choreic children were morally imbecile. The question will therefore naturally arise as to the existence of degeneracy in the family of a given child. "Degeneracy," according to Morel,‡ the apostle of the doctrine, "is the result of a morbid influence, physical or moral. An essential characteristic of degeneracy is hereditary transmission, but of a graver type and more far-reaching in consequence than ordinary heredity." This factor, as Moreau de Tours

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* "Keating's Cyclopædia."

† "Diseases of Children."

‡ "Traité des Degenerescences Physiques," etc.

points out, plays an exceedingly important *rôle* in the disorders of childhood. In infancy are born errors and prejudices almost never uprooted; above all, credulity, cynicism and cruelty. Although impressions are mobile, still something remains therefrom for the future. The child is dominated by the most pressing appetite and instability resembling that of the ape, as described by Milne-Edwards, or the hysteric, is in the main uppermost in childhood. As Cabanis has shown that there is no moral distinction between the psychic life of the sexes in childhood at the outset, upon the power of acquiring checks turns the after-life of the child, and this power is lessened by the cortical deficiencies due to degeneracy, which also create the predispositions to which reference has already been made.

This acquired predisposition, so to speak, is singularly well illustrated in the lives of Margaret Fuller and "George Eliot." Margaret Fuller says, concerning her education :*

> My father instructed me himself. At the outset he made one great mistake more common it is hoped in the last generation than the warnings of physiologists will permit it to be in the next. He thought to gain time by bringing forward the intellect as early as possible. Thus I had tasks given me as many and various as the hours would allow, and on subjects beyond my age, with the additional disadvantage of reciting to him in the evening after he returned from his office. As he was subject to many interruptions I was often kept up until very late, and as he was a very severe teacher, both from his habits of thought and his ambition, for my feelings were kept on the stretch till the recitations were over. Thus frequently I was sent to bed several hours too late, with nerves unnaturally stimulated. The consequence was a premature development of the brain that made me an "infant prodigy," by day and by night a victim of spectral illusions, nightmare, and somnambulism, which at the time prevented the harmonious development of my bodily powers and checked my growth, while later they induced continual headache, weakness, and nervous affections of all kinds. As these, again, reacted on the brain, giving undue force to every thought and every feeling, there was finally produced a state of being both too active and too intense, which wasted my constitution and will bring me —even although I have learned to understand and regulate my now morbid temperament—to a premature grave. * * * No one knew why

* "Memoirs," Vol. I, page 14.

this child, already kept up so late, was still unwilling to retire. My aunts cried, "Out upon the spoiled child! the most unreasonable child that ever was—if brother could but open his eyes to see it—who was never willing to go to bed." They did not know that, soon as the light was taken away, she seemed to see colossal faces slowly advancing toward her, the eyes dilating and each feature swelling loathsomely as they came, till at last when they were about to close upon her, she started up with a shriek, which drove them away, but only to return when she laid down again. They did not know that, when at last she went to sleep, it was to dream of horses trampling over her, and to awake once more in fright; or (as she had just read in her Virgil) of being among trees that dripped with blood, while she walked, and walked, and could not get out, while the blood became a pool and plashed over her feet, and rose higher and higher till she dreamed it would reach her lips. No wonder the child arose and walked in her sleep, moaning all over the house, till once, when they heard her and came and waked her, and she told what she had dreamed, her father sharply bid her leave off thinking of such nonsense, or she would be crazy! never knowing that he was himself the cause of all these horrors of the night.

To these influences Emerson* rightly referred her later dæmonology, with its curious superstition and imperative conceptions. He says:

Her childhood was full of presentiments. She was then a somnambulist. She was subject to attacks of delirium, and later perceived she had spectral illusion. When she was twelve she had a determination of blood to the head. "My parents," she said, "were much mortified to see the fineness of my complexion destroyed. My own vanity was severely wounded, but I recovered, and made up my mind to be a fright and ugly." She was all her lifetime the victim of disease and pain. She read and wrote in bed, and believed that she could understand anything better when she was ill. Pain acted like a girdle, to give tension to her feelings. A lady who was with her during an attack of nervous headache, which made Margaret totally helpless, assured me that Margaret was yet in the finest vein of humor, and kept those who were assisting her in a strange, painful excitement, between laughing and crying, by perpetual brilliant sallies. There were other peculiarities of habit and power. When she turned her head on one side she alleged she had second sight, like St. Francis. These traits and predispositions made her a willing listener to all the uncertain sciences of mesmerism and its goblin brood, which have been rife of late years (1849). She had a feeling she ought to have been a man, and said of herself: "A man's ambition with a

* "Memoirs," Vol. II.

woman's heart is an evil lot." In some verses which she wrote "To the Moon" occur these lines:

> But if I steadfast gaze upon thy face,
> A human secret like my own I trace,
> For through the woman's smile looks the male eye.

And she found something of true portraiture in a disagreeable novel of Balzac, "Le Livre Mystique," in which an equivocal figure exerts alternately a masculine and a feminine influence on the character of the plot.

The same tendencies are demonstrable in "George Eliot." Strongly sceptical and virile in type as was the intellect of "George Eliot," her childhood was marked by phenomena of like causation to those already described in Margaret Fuller. Like Margaret Fuller she had a father of "extraordinary determination of character,"* Her mother was a "woman with an unusual amount of force" but of "ailing habit." George Eliot, during childhood, "suffered from a low general state of health and great susceptibility to terror at night," and the liability "to have all her soul become a quivering fear" remained during life. She suffered from periodical depression, which later gave place to migraine, evidently of uric acid type, and often attended with rheumatoid phenomena. She was "an awkward girl, reserved and serious far beyond her years, but observant and addicted to the habit of sitting in corners and watching her elders." Fear of the unknown in children, seemingly a reversion to the fear of the unknown of savages, tends like it to produce occult belief. This has been pointed out by Emerson in the case of Margaret Fuller. Despite the German rationalism of George Eliot such fear found utterance in her "Beyond the Veil;" a mystically occult contrast with her novels and with the positivism which was her religion. The philosophy of George Eliot should theoretically have effaced such mysticism, yet, as a survival of "night terrors," it came to the surface. Dickens portrays with singular felicity this acquired predisposition

* Cross' "Life of George Eliot."

when he says about the teacher of the model school in "Hard Times," "Ah, rather overdone, McChoakumchild! If he had only learned a little how infinitely better he might have taught much more. He went to work in this preparatory lesson, not unlike Morgiana in the 'Forty Thieves,' not looking into all the vessels before him, one after another, to see what they contained. Say, McChoakumchild, when from the boiling stove thou shalt fill each jar brim-full by-and-by, dost thou think thou wilt always kill the robber Fancy lurking within, or only maim and distort him?"

[*To be Continued.*]

Recent Discoveries in the Nervous System.*

By Frank Baker, M. D., Ph. D.,

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IT is a habit of the human mind, ever prone to dwell upon personal achievement rather than upon the slow course of scientific evolution, to ascribe to individuals the discoveries that seem to mark eras in the advance of knowledge. Columbus discovered America. We pause at that, rarely thinking of the preliminary work that made the discovery of Columbus possible—of the mariner's compass and of the astrolabe, then just made useful, without which the bold navigator would have been obliged to hug the coast like Vasco da Gama and his other predecessors.

Improvements in instruments and methods precede all important advances into new territory. Not until the compound microscope was invented were the tissues of the body recognized; not until achromatic lenses eliminated the errors of the instrument was the cell theory established. No accurate and certain results could be obtained from the examination of the nervous system until Stilling, in 1842, invented the cutting of serial sections; the processes of the nerve cells were first clearly made out by Deiters and Remak in 1855, after Lockhart Clarke had invented the modern method of clearing and mounting tissues; Stilling discovered the reticular character of protoplasm in 1860, after hardening in chromic salts was invented by H. Müller, and Gerlach had found staining by carmine

* A lecture delivered before the Biological Society of Washington.

Vide Alienist and Neurologist for 1883, for a continuation of the subject of the fine Anatomy of the Central Nervous System.—Ed.

We need make no apology for reproducing this article from the pages of the *New York Medical Journal*, whose enterprising appreciation of neurological progress, and of its relationship to general medicine, is apparent in the article which we reproduce, so fully abreast as it is with recent progress of neurological anatomy.—Ed.

effective as a method of investigation; the boundaries of cells were not clearly understood until the accidental discovery that their metaplasm would reduce nitrate of silver. Each improvement in method marked an increase in definite and exact knowledge.

The great development of microscopical technique during the last few decades, the double staining invented by Waldeyer in 1863, the osmic-acid stain discovered by Max Schultze (1865) by means of which the medullary sheath of nerve fibers is sharply defined, the gold and palladium stains of Cohnheim (1866) and F. E. Schulze (1867), and the aniline stains first introduced by Waldeyer and since greatly multiplied, have allowed us to attain extraordinary precision in delimitation of structural elements.

The discoveries to which I wish to call your attention to-night were preceded and made possible by two improvements in microscopical methods. The first is not so very recent, as counted by the great speed of these *fin de sicle* times, for it was in 1875 that Camillo Golgi* discovered, probably by accident, that tissues that had been exposed for a long time to chromic solutions would afterward take a most delicate silver stain, which would display every filament of nervous tissue, even the finest. The great time and unusual precautions necessary for the procedure prevented its general use, and histologists for many years looked rather askance at the results published by Golgi and his pupils. The second is the discovery made by Ehrlich, in 1886, that methylene blue injected into the circulation of living animals stains in a highly satisfactory manner the endings of the nerves. It is, unfortunately, not well adapted to the higher animals.

Until a very recent date it has been held that the nervous system is composed of at least two distinct elements. The latest edition of Quain's "Anatomy" (1891) says:

> When subjected to the microscope, the nervous substance is seen to consist of two different structural elements—viz., fibers and cells.

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* Sulla fina struttura dei bulbi olfattorii. ***Rivista sperimentale di freniatria e di medicina legale.*** Reggio-Emilia, 1875, i, 405–425.

Gray's "Anatomy," last American edition (1887), is no less clear:

> All nervous tissues are composed chiefly of two different structures —the gray or vesicular, and the white or fibrous.

The prevailing conception of a fiber is tolerably clear, it being that of a fibrillary core, called an axis cylinder, invested by one or more sheaths. That of a nerve cell is more vague, it being a nucleated body, very variable in size and shape, having one or more processes which usually present a truncated appearance, evidently caused by the methods used in preparing the specimen. Most of these processes branch at once into fine filaments, one remaining distinct and apparently undivided. Deiters, in 1865, distinguished the former as protoplasmic processes; the latter he believed to be connected with a nerve fiber, and therefore called it an axis-cylinder process. His view was hypothetical, no demonstration of actual continuity being made. Cells are named unipolar, bipolar and multipolar, from the number of processes they present. Apolar cells have been described, but are regarded with suspicion.

Great interest has always centered about the protoplasmic processes, some, among whom is Golgi himself, holding that their function is the collection of nutriment for the large cell body from the blood-vessels, others holding, with Gerlach, that their terminal filaments unite in a fine plexus that forms the principal substratum of gray matter of the nervous centers, constituting a *sensorium commune* into which the fibers of the sensory nerves pass without break, their impulses passing thus from cell to cell and finally again from cells into fibers either directly or by means of the axis-cylinder fibers. These views, too, are mainly hypothetical. Gerlach's preparations were marvels of technical skill, but he never succeeded in demonstrating the passage of either processes or fibrils into an axis-cylinder.

The first clear and certain light on this subject came

from the investigations of His, published in a series of articles from 1879 to 1891. As in so many other cases, embryological development furnished the necessary clew.

Permit me to recall to your minds the well-known early stages in the history of the central nervous system. After the ovum has become shaped into a hollow sphere or blastula there forms on its surface the medullary groove, a shallow furrow that gradually deepens and, by closing at its edges, forms the medullary canal, which is therefore an infolded portion of the exterior surface. (See Fig. 1.) From the epithelial lining of this canal the brain and spinal cord develop.

This lining, at an early stage, is composed of a single layer of cells, which, however, already show some differentiation. Between regular columnar cells forming a pavement epithelium there occur large round cells with well-marked nuclei showing signs of active proliferation —the *germ cells* of His. (See Fig. 2.) These two classes of cells have a totally different history. The columnar cells form the principal sustentacular tissue of the nerve centers, while the germ cells develop into the proper neural elements.

Spongioblasts and Neuroglia.—On examining the gray matter of the adult cord it is seen that, besides the ordinary form abounding in large cells (substantia spongiosa), there occurs in some situations a semi-transparent variety (substantia gelatinosa) abounding in small cells, with great numbers of thread-like processes. (Fig. 3.) Two areas exist in which this is the predominant tissue —one about the central canal (substantia gelatinosa centralis), another near the tip of the posterior horn (substantia gelatinosa Rolandi.) Its characteristic cells are also scattered throughout the cord, even in the white substance. The same general features occur in the brain.

The exact nature of this small-celled tissue, which early received the name of neuroglia, has long been a subject of controversy. Noting its sustentacular character

and the similarity of its cells to those of connective tissue, it has usually been assigned to that group, although there has been given no satisfactory explanation of the occurrence of a tissue supposed to be characteristic of the mesoderm among cells of unquestionable ectodermal origin.

His shows that it has developed from the columnar cells of the medullary plate in the following manner (see Fig. 4): The cells increase greatly in length, their nuclei lie in several rows, but their ends always reach the surfaces of the plate, and, when that closes to become a tube, the cell axes are disposed radially. Part of the protoplasm liquefies and disappears; the remainder, consisting of the cell wall and an intracellular network, remains as a highly refractive, easily stained metaplasm. Thus the cells change their shape and character, being centrally rod-like and columnar, united at their ends by their edges, peripherally forming a dense reticulum. From this peculiar formation they are called spongioblasts, and the entire lattice-like tissue composed by them is termed myelospongium.

There can now be distinguished three zones in this myelospongium of the medullary tube: one about the central canal, formed by the united central ends of the spongioblasts, one occupied by their nuclei, and one by the peripheral reticulum. These are respectively termed the internal limiting membrane, the columnar or mantle layer, and the velum confine. The first forms the substantia gelatinosa centralis, the second the neuroglia of the gray matter, the third the neuroglia of the white matter.

When the Golgi method is used, it is found that the silver salt is more readily reduced by the neuroglia than by the other tissues, so that by stopping the process at the proper point it is possible to mark out its elements with precision. For convenience of handling, the cords of the embryos of small animals are preferred. The spongioblasts proliferate and crowd together about the central canal, each developing a bristle-like process on

its free surface, which thus becomes what has been usually designated as "ciliated epithelium." The columnar processes become more and more attenuated as the cord increases in size, still passing through the entire thickness from central canal to pia mater. (See Fig. 5.) Special aggregations of these processes form septa, of which the posterior median septum is one. The peripheral ends unite to form the outer investment of the cord under the pia mater.

After a time the continuity of the processes with the cell bodies can no longer be demonstrated. They break away at either end, numerous secondary processes are developed, and a typical neuroglia cell is thus formed. The primitive condition persists, however, in fishes, reptiles, and batrachians, also in certain regions of birds and mammals, as the retina (fibers of Müller) and the olfactory mucous membrane.

Thus the vexed question of the nature and origin of this tissue appears to be finally set at rest. The result is due principally to the labors of His and Lenhossék. The latter observer has traced all the changes in the spinal cord of the human embryo.

Neuroblasts and Nerve Cells.—The germ cells, the other class of epithelial elements of the medullary plate, do not lag behind in development, but appear, on the contrary, to show an extraordinary activity. Originally occupying the inner stratum next the free surface of the epithelium, they first begin to change their shape, becoming pointed upon one side and finally pyriform (Fig. 6, A, B). These are the apolar cells described by early observers—a transitory condition only. The pointed end continues to grow until it develops as an extended process of the cell, which, with its rounded head and tail-like appendage, strikingly resembles a tadpole, and also reminds one very much of the spermatoblasts of the seminal tubules that are developed in a similar manner (Fig. 6, C). The young cell is now called a *neuroblast*, and commences to migrate from its original seat (Fig. 7).

As the myelospongium has now become fully developed, they pass outward between its columns. The velum confine appears to oppose an obstacle to their further outward progress, and upon reaching it they turn their processes aside and direct them ventrally, forming a secondary zone within the mantle layer, called by His the arcuate layer. At this stage the processes have a tendency to collect into bundles, as shown in Fig. 8. These finally pierce the velum confine in the region of the anterior root of a spinal nerve (Fig. 9). The neuroblasts remain within the cord, develop secondary processes by budding in the same manner that the first was formed, and become *nerve cells;* their primitive processes continue to extend until they reach the periphery of the body, are invested with medullary sheaths supplied by the connective tissue of the region through which they pass, and become *nerve fibers.* The nerve fiber and the nerve cell are therefore parts of the same histological unit.

When nervous tissue is examined by the Golgi method we obtain the same precision as was noted in the case of neuroglia. The protoplasmic processes no longer appear as truncated stumps, but each is seen to break up into an arborescence of almost inconceivable delicacy. Some of the discoveries made are quite unexpected. Axis-cylinder processes are found on all cells, even those of the posterior horn. Golgi was able to make out two classes of cells: one with a long axis-cylinder process, which he connected especially with the motor cells of the anterior horn, another with short axis-cylinder process, which he supposed to be characteristic of the posterior horn, but which recent observers find in all parts of the cord.

While the axis-cylinder process can be distinguished from the protoplasmic processes by its more direct course and simple appearance, it is yet found that it sooner or later branches, frequently giving out a few laterals at a short distance from the cell, and always terminating, as

do the protoplasmic processes, in a tuft of filaments. For the motor cells these tufts are found at a considerable distance upon the motorial end plate of a muscle fiber. Indeed, as the neuroblast grows, its terminal process has an enlarged extremity—the "cone of growth"—upon which may be observed some slight elevations, representing the rudimentary terminals. It would therefore appear that the independence observed in the developing neuroblasts is preserved in the adult tissue.

But the neuroblasts we have been considering belong mainly to the anterior roots, which since the time of Sir Charles Bell we recognize as motor or efferent. What shall be said of the posterior roots by which afferent impulses reach the cord?

Æsthesioblasts and the Posterior Roots.—At the time of the closure of the medullary groove a thickened portion of the epithelial lining remains just at the seam, constituting a band known as the neural crest. (See Fig. 1, C.) This becomes segmented, moves outward, and forms the spinal ganglia. Kölliker in 1844 first noted that these ganglia contain unipolar cells from which he supposed a single medullated fiber proceeded. In 1847 the significant discovery was made that in fishes the cells of these ganglia are bipolar, giving off a medullated fiber from opposite ends. In 1875 Ranvier found that the single fiber of Kölliker branches into two at a short distance from the cell (T fiber). It was then discovered that the ganglion cells in the embryos of the higher vertebrates agree with those of fishes in being bipolar, and finally His found transition forms.

These cells, for which I propose the term *æsthesioblasts** assume a spindle shape while yet a part of the epithelium of the medullary groove. They resemble the neuroblasts in the formation of their processes, but the precocious development of a secondary process makes them bipolar.

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* Lenhossèk calls them *ganglioblasts*. This term could not, however, be properly applied to the cells of a similar character found in the olfactory membrane and in the retina.

At first these are opposite—the cell is oppositipolar—then, as the cell body is pushed aside, the processes approach each other (geminipolar), and finally, as they become blended in a single prolongation of the body, unipolar. It is not likely that these changes of arrangement involve any differences of function.

One of the processes of an æsthesioblast seeks the periphery and terminates in fibrils that are either lost in the cuticular tissues or end in an expansion (tactile corpuscle, Pacinian corpuscle, end-bulb of Krause) surrounded by connective tissue. The other process grows centrally, and its final destination is one of the most significant of the recent discoveries.

The posterior roots of the cord have long been a great puzzle to neurologists. Clear and definite demonstrations of their central terminations and their behavior with respect to the other components of the cord have been wanting. Anatomists have therefore been obliged to rely upon evidence adduced from other sources. Waller, in 1852, discovered that when a nerve fiber is cut, one of its ends degenerates, and that this degeneration can be easily followed in a series of consecutive sections. Often it is the distal portion that degenerates, but not always. For example, the cutting of a spinal nerve beyond the ganglion causes a total degeneration of the distal end, while a section of the posterior root between the ganglion and the cord causes an almost total degeneration of the central end. In either case the long processes of the cells are severed from the cell body which probably controls their nutrition. After section of a posterior root degenerations are found in the posterior columns of the cord on both sides. Further experiments led to the discovery that lesions of the white matter of the cord cause degenerations in different directions—some *ascending*, as in the posterior columns, others *descending*, as in certain portions of the lateral columns. Certain tracts of the white matter could thus be separated with some precision.

This was supplemented by the embryological researches of Flechsig, who, in 1872–'76, found that some groups of the white fibers of the central nervous system always receive their myelin sheath earlier than others. By this means the result obtained by degenerations were supplemented and controlled. The aid of physiology and comparative anatomy was also invoked. As stimulation of certain cells produced definite movements, a continuity of path between cell and muscle was assumed; in some lower animals tracts were found comparatively larger or smaller than those of man, often correlated with special differences of function.

Combining the information derived from these indirect sources with the result of direct observation, the following views have been held as to the posterior roots (see Fig. 10): On entering the cord they separate into two bundles—one median, large-fibered, myelinating early, related to muscular movements; another lateral, small-fibered, myelinating late, related to cutaneous and visceral sensibility. The first bundle passes inward to the posterior columns, thence sending some fibers that pass upward and perhaps downward, and are connected with muscular co-ordination and equilibration; also others that pass forward to the anterior horn and are concerned in reflex movements. Some may also pass to the gray matter of the opposite half of the cord. The second bundle passes to the gray matter and is lost in the column of Clarke, the scattered cells of the posterior horn, or turns upward and downward in a fascicle of white fibers lying in the gray near the substance of Rolando.

The actual terminations have been carefully investigated by Ramón y Cajal, of the University of Barcelona, using the Golgi method of staining. His discoveries have been amply confirmed by Kölliker, Lenhossék, Van Gehuchten, and others. It is found that the great majority of the fibers of the posterior roots divide dichotomously on entering the cord, sending one branch upward and another downward. These branches form the bulk

of the posterior columns (Fig. 11). From them at short intervals collateral twigs are given off at right angles. These enter the gray substance of the cord and break up into delicate fibrils, each fibril, however, remaining distinct and ending free, either by filaments or minute enlargement. The plexus imagined by Gerlach has no existence; there is instead an intimate felt-like interlacing of filaments—the *neuropilem* of His.

The area of distribution of a single nerve fiber is therefore much greater than has been heretofore imagined, as it supplies by its collaterals many different levels of the cord, passing perhaps as far as the medulla oblongata. The posterior columns of the cord are mainly composed of the ascending and descending branches of the fibers; the collaterals take for the most part the directions formerly described for the nerve fibers proper—viz., a reflex bundle to the anterior column that ramifies about the motor cells, another to the column of Clarke, forming a rich felt-work about its cells, a few fibers to the posterior horn of the opposite side, and many fibers that break into terminals within the posterior horn (Fig. 12.)

There is a small fascicle apparently derived from cells of the anterior horn that passes to the posterior roots. This is probably an efferent bundle and constitutes an exception to the rule which makes the posterior roots exclusively afferent.

The Neurons.—On comparing the development of the anterior and posterior roots it will be seen that they are composed of essentially similar elements developed in a similar manner. Waldeyer has given to these elements the name of neurons. Each is composed of (1) a nerve cell with (2) its protoplasmic processes (3) its axis-cylinder process passing into a nerve fiber, and (4) its final termination in a branching tuft. In the case of the anterior root the neuron has short protoplasmic processes and a long axis-cylinder process; in that of the posterior root the protoplasmic process is long, extending to the periphery and collecting impulses from without like

the terminals of a nerve of special sense; the axis-cylinder process is short, almost immediately dividing and subdividing (Fig. 13). Lenhossék has recently made an important discovery that appears to show that both of these originate from a single primitive type. In the earthworm there are no organs like the spinal ganglia, and the sensory cells or æsthesioblasts are scattered throughout the epidermis, presenting short collecting filaments externally and sending to the central nervous system long processes that finally bifurcate like the æsthesioblasts of a vertebra. It appears that in the course of phylogenetic development, the æsthesioblasts have been gradually withdrawn from the periphery, this causing their collecting filaments to be drawn out into long processes.

The idea advanced by Golgi that the protoplasmic processes subserve the nutrition of the cell appears to be without foundation. Many circumstances show that they transmit impulses. In no other way can we understand the action of the cells of the spinal ganglia or those belonging to the organs of special sense.

This transmission does not involve, as was formerly supposed, an unbroken continuity of structure. It would appear that certain of the terminal filaments of the neurons are excitable to stimuli received either from the outside world or from other neurons, and that the impulses or currents thus formed are conveyed along the processes toward the nucleus of the cell, being, to use Ramón y Cajal's term, *cellulipetal;* from thence they proceed as *cellulifugal* currents along other processes to other terminals and these in turn may stimulate other neurons by contact only, either being applied closely about the body of the cell or interlacing with its arborescent filaments. To the cellulipetal currents the protoplasmic processes are assigned, while the currents of the axis-cylinder processess appear to be exclusively cellulifugal.

It should be remarked that a comparative study of the nerve cells shows that it is probable that the differentiation which we find in higher and adult animals

between the protoplasmic and the axis-cylinder processes is a matter of gradual development. In the earthworm Lenhossék and Retzius have found cells that show all varieties of form, from a unipolar cell branching out into widely ramifying processes to a bipolar cell, in which there are two processes of the same character and the same ramification, and the multipolar cell which has one axis-cylinder process (Fig. 14).

The primitive neuron appears, then, to be merely a multipolar, remarkably differentiated cell, whose processes may receive stimuli from without or excite other similar cells by contact with them.

It should be remarked that both these functions agree fully with what we have long known with regard to cells. The endings of the nerves of special sense have always been supposed to be excited by external stimuli, and it has been known that a motor nerve conveys impulses to a muscle by means of contact alone in its motorial end plate.

It is conceivable that an impulse received from without by means of a neuron should be transmitted at once to other neurons within the substance of the cord, and thence referred immediately to a muscular fiber. No doubt this frequently occurs, for this would account for the simplest forms of reflex movement. Yet it is probable that in most cases the matter is more complex than this, and that there are certain *secondary* neurons interposed. These may refer the sensation to neurons presiding over special groups of muscles which may be either on the same side or on opposite sides of the body. Recent investigations seem to make it probable that most of the impulses that cross the median line are carried by secondary paths of this character. It is now denied that any fibers from the cells of the anterior horn cross to the nerve roots of the opposite side, and while a few fibers of the posterior roots are found to cross, yet they are insignificant. Yet, as is well known, both motor and sensory impulses do actually cross. This is

effected by a large number of so-called *commissural* cells found in all parts of the cord. These are cells having a short axis-cylinder process which they send to the opposite half of the cord, there terminating in the usual arborescence or passing into the white matter in one or more branches, thence proceeding to different levels.

The branches of the fibers of the posterior roots pass for the most part into the posterior columns. What, then, is the constitution of the other white columns of the cord? On investigating them they are found to be of the same general character as the posterior columns, being composed of vertical fibers that give off at short intervals collaterals that penetrate the gray matter and there terminate in the usual arborescent manner. It is impossible to actually trace these fibers throughout their whole extent, because they soon pass beyond the field of the microscope; but there can be no reasonable doubt that they belong to cells that are situated within the nervous centers either above or below the section under examination. As lesions of some portions of the cortex of the brain are followed by degenerations within the substance of the cord, it appears that some of the cells at least must be referred to that part of the system. We will therefore proceed to consider the anatomical constitution of the cortex for the purpose of ascertaining whether there are any elements there which would justify the conclusion that they are connected with the cord.

Cortex of the Cerebrum.—It has long been known that a considerable portion of the cortex is occupied by large cells of a triangular outline, presenting a pointed extremity toward the exterior. These, the pyramidal cells of authors, are of great size in the so-called motor regions of the cortex—that is to say, in the central convolutions—the region which if injured causes the descending degenerations above referred to. Since the publication of Golgi's chief work* it has been known that these

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* *Sulla fina anatomia degli organi centrali del sistema nervoso*. Milano, 1885-'86. *Vide* also translation ALIENIST AND NEUROLOGIST, 1883. Nos. 2 and 3.—ED.

structures have wide-reaching connections, and Ramón y Cajal and Van Gehuchten have much extended our knowledge.

The largest of these cells may reach 40 μ, or about $\frac{1}{600}$ of an inch, in breadth, and the length of the cell body may be four or five times as great, so that they are among the largest cells in the body. It has been noted that there appears to be a direct proportion between the size of a nerve cell and the number and length of its processes. This is justified in the present instance, for there proceed from these cells highly complicated processes, some of them of great length. From the apex of the cell a protoplasmic stem passes up through the superficial layers of the cortex and terminates in an arched arborescent panicle, each composed of plume-like expansions barbed with secondary spines. These panicles interlace with each other throughout the superficial layer of the cortex in the most intricate manner, forming a perfect forest of branches which, however, never anastomose with each other (see Fig. 15). From the sides of the cell body protoplasmic processes arranged in the usual tuft-like manner extend laterally, and from below there descends into the white fibers of the zona radiata an axis-cylinder process that gives off at intervals a few collaterals (Fig. 16). There seems to be no reason to doubt that many of these axis-cylinder processes pass down in the pyramidal tracts and finally reach the spinal cord as some of the fibers of the antero-lateral columns, distributing their terminal collaterals to the motor cells of the anterior horn.

Besides the extraordinary appearance and peculiar situation of these cells there are reasons drawn from embryology and from comparative anatomy that indicate the probability that they are the chief agents in the psychic activity of the cortex. As we ascend the scale from the lower vertebrates to man an increasing complexity of structure is found in these cells, and there is also seen a similar progressive development when the

different stages of their growth in the embryo are observed (Fig. 17). Ramón y Cajal has therefore given to these structures the name of *psychic* cells.

These elements are scattered throughout the cortex in the pyramidal layers of Meynert. Those lying superficially are small and their panicles are short, and there is a regular increase in size and length of panicles as we proceed deeper, until some reach the enormous length shown in the cell at the right in Fig. 15.

In Meynert's fourth layer (layer of mixed or polymorphous cells) the psychic cells appear to undergo certain reductions. Here the panicles are no longer found; a stem like that which bears them may extend for some distance toward the surface, but it finally breaks up into terminals like other protoplasmic processes. These reductions become greater in the deeper portions of the layer, until finally we reach the ordinary form of a stellate multipolar cell with an axis-cylinder process (see Fig. 15).

Ramón y Cajal suggests that some of the interactions that take place between the psychic cells may be such as are represented in Fig. 18. An impulse arriving by the afferent fiber E is conveyed by its terminal filaments to the panicles of the psychic cells lying in the superficial layers of the cortex. These transmit it downward and at the same time affect by their collaterals the cells situated in deeper layers, as C and D. These finally discharge into the efferent fibers of the central white matter, G, and these may convey the impulses by means of their own collaterals, F, to other cortical cells, or they may carry it down to lower levels.

Although the psychic cells are the principal elements of the cerebral cortex, there are others that should be mentioned. Throughout the superficial layers there are scattered sparsely a few cells of peculiar types. There are at least two classes of these: First, fusiform or irregularly-shaped cells with processes of great length given off from either end and passing horizontally (Fig. 19, A, B, D, E). In some cases, as in cell A, several

axis cylinders belong to the same cell, usually arising from its processes. Such multiplication is not known to occur elsewhere in the human body, and reminds one of the nerve cells of batrachians and reptiles, several of whose processes may be transformed into nerve fibers. Second, polygonal or stellate cells sending divergent varicose ramifications in every direction, some reaching the free surface of the cortex, others penetrating deeply into the subjacent layers. These have, however, axis-cylinder processes that have no tendency to descend, but run either horizontally or toward the surface.

Below the pyramidal layers, cells are found that send their axis-cylinder processes upward (Fig. 15, *f*, *g*), also others that have short axis-cylinder processes like the commissural cells of the spinal cord (Fig. 15, *j*).

The fibers constituting the white matter of the hemispheres may be classified as follows:

a. PROJECTION FIBERS—those which project the impulses of the outside world upon the sensorium or the reverse. Divisible, therefore, into:

1. *Cortico-afferent*—those carrying impulses to the cortex from lower levels.

2. *Cortico-efferent*—those carrying impulses from the cortex to lower levels.

b. ASSOCIATION FIBERS*—those which correlate cortical areas, subdivided into:

1. *Arcuate*, correlating areas of the same hemisphere.

2. *Commissural*, correlating areas of opposite hemispheres.

The cortico-afferent fibers are not easily made out, as the cell bodies must necessarily lie beyond the field of vision. Yet there are certain large-fibered terminals (E, Fig. 18) that pass up from below to the outer layers, that appear to belong to cells in the cerebellum or the medulla.

* Meynert confines this term to fibers associating areas of the same hemisphere, or those termed in the text *arcuate* fibers. He supposed that the commissural fibers connected identical or homogeneous areas of the opposite hemispheres. This is now known not to be the case, all fibers being associational in the sense of connecting heterogeneous areas.

The cortico-efferent fibers appear to proceed from all regions of the cortex, passing through the corpus striatum to converge in the cerebral peduncles. They arise as axis-cylinder processes from all the varieties of the psychic cells, large pyramids, small pyramids, and those without panicles. Most of them pass to the pyramidal tracts of the medulla and spinal cord. Collaterals from these fibers may pass either to the corpus callosum (C, Fig. 21) or to neighboring convolutions, thus becoming association fibers. They usually communicate by means of fine collaterals with the cellular elements of the corpus striatum.

The arcuate fibers (Fig. 20) may also arise from all varieties of the psychic cells. They are extremely numerous in the higher animals, sending their terminals and collaterals into every region of the cortex. The fasciculus arcuatus is almost entirely made up by their trunks. In adult forms their complication is so great as to make it beyond our power to disentangle them; it is therefore necessary to investigate them in the embryos of small mammals, where the whole may be brought within the limits of the microscopical field. The whole system offers a remarkable analogy to the fibers and collaterals found in the columns of the spinal cord. The shortest fibers of this class are those belonging to the commissural cells of the deeper layers of the cortex, while some of the longer fibers are those of the spindle cells of the superficial layer.

The commissural fibers (Fig. 21) may pass to the opposite side either in the corpus callosum or in the anterior commissure. The fibers of the corpus callosum have long been noted for their fineness, and this is found to arise from the fact that many of them are collaterals from axis-cylinder processes. These may arise either from the arcuate fibers or from the efferent projection fibers. It is not known whether any afferent fibers send collaterals to the opposite side. Besides these, there are certain commissural fibers derived directly from the small pyramids of the cortex.

The idea so long prevalent that the fibers of the corpus callosum associated precisely identical areas of the cortex in opposite hemispheres must be abandoned. By examining the brains of small mammals it has been clearly demonstrated that a single fiber may be widely distributed throughout the opposite side. It is, in fact, doubtful whether, in any case whatever, such a union of identical areas really occurs.

The fibers of the cortex myelinate late, none receiving their medullary sheath until the ninth month of fetal life. Those of the central convolutions are the first to receive it, then those of the occipital lobe. The former appear to be connected with the motor functions, the latter with the functions of visual memory.

The Cerebellum.—If the new discoveries give promise of leading to a rational knowledge of the elements of the cerebrum, what shall be said of the cerebellum, that organ which has caused so much conjecture and concerning which so many contradictory views have been expressed that Eckhardt said that it would be much more satisfactory if we knew nothing at all about it?

Anatomists since the time of Gall have been struck with its remarkable relations and have considered it an important organ. While they no longer assign to it the control of the procreative functions, yet its union, by means of clearly defined paths, with the spinal cord, the basal ganglia, and the cortex cerebri, make it probable that it performs some essential function; and the fact that it exists throughout the vertebrate series, increasing in size and complexity as we ascend the scale, indicates that this function is one connected with the higher activities of the nervous system. Yet, with all the elaborate researches that have been made, our knowledge of its histology has hitherto been meager.

Its cortex is usually described (Quain, Gray, Schwalbe, etc.) as composed of two layers—an outer clear gray or molecular layer, and an inner reddish-gray or granular layer. At the injunction of these two layers are found



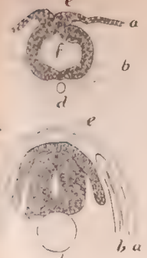


Fig. 1

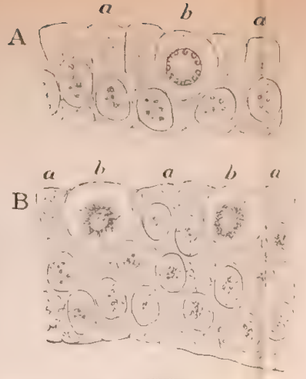


Fig. 2

FIG. 1.—Formation of the medullary canal. A, Section across the medullary groove. B, The same, to show the medullary canal. C, The formation of the neural crest. *a*, ectoderm; *b*, endoderm; *d*, notochord; *e*, neural crest forming rudiments of the spinal ganglia; *f*, medullary groove or canal.

FIG. 2.—Three stages in the development of the rabbit. A, Before closure of the medullary groove; B, After closure; C, Formation of ganglia. *a*, *a*, columnar cells; *b*, *b*, *b*, germ cells.

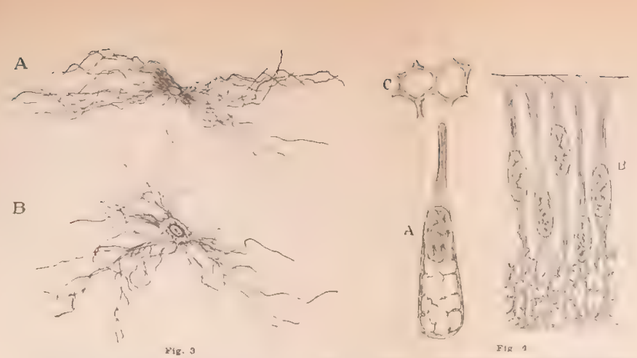


Fig. 3

Fig. 4

FIG. 3.—Neuroglia cells. Obersteiner. A, From human spinal cord. B, From cerebellum of fœtal sheep.

FIG. 4.—Formation of spongioblasts. His. A, Single spongioblast showing the ingrowth from the epithelium and development of the nerve cells. B, Arising inward of the spongioblasts in a rabbit. Each is seen to have separated at *a*, the outer limiting membrane; *b*, columnar or mantle-layer; *c*, volum confine. C, Surface view of the external limiting membrane.

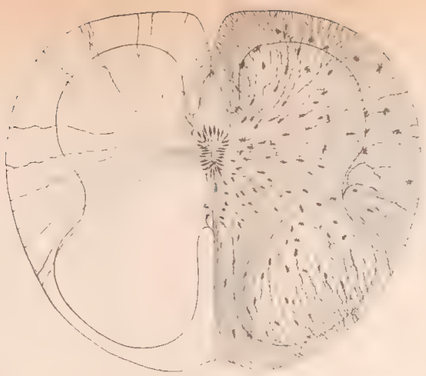
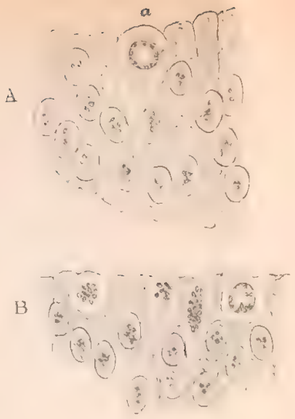


Fig. 5

FIG. 5.—The spongioblast framework of the spinal cord. Retzius. *a*, external limiting membrane; *b*, mantle-layer; *c*, volum confine.



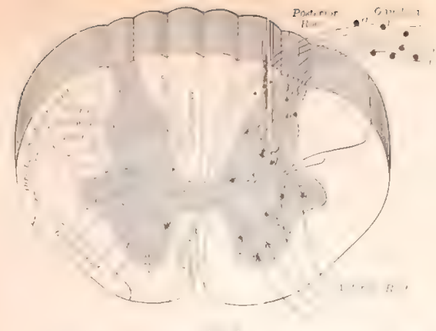


Fig. 2

FIG. 1.—Diagram showing the [illegible] spinal cord and its [illegible] fiber sending collateral to anterior [illegible] same side of cord. *f*, fibers sending [illegible]



Fig. 7

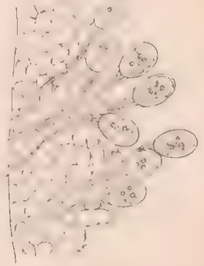


Fig. 8.

FIG. 7.—Migration of neuroblasts. His. Young neuroblasts from the spinal cord of a human embryo leaving outward along the spongioblastic network.

FIG. 8.—Bundles of neuroblasts. His. Young neuroblasts from the spinal cord of an embryo chick collecting into bundles along the velum confine at a locality where the longitudinal and arcuate fibers are wanting.

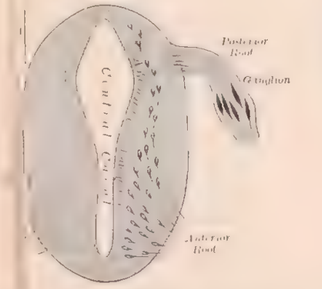


Fig. 9

FIG. 9.—The formation of nerve roots. Edinger. Section through spinal cord of a human embryo.



Fig. 10

FIG. 10.—Diagram showing [illegible] to the course of nerve fibers within the spinal cord.



Fig. 11



Fig. 12

FIG. 11.—[illegible] of the spinal cord [illegible] from a cephalic [illegible] of the [illegible] of the [illegible] of the





Fig. 16.

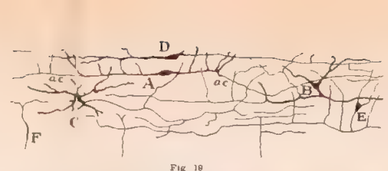


Fig. 19.

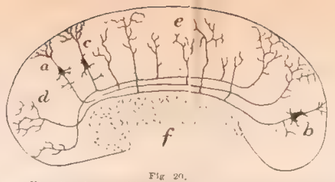


Fig. 20.

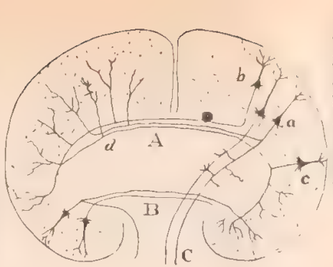


Fig. 21.



Fig. 22.



Fig. 23.

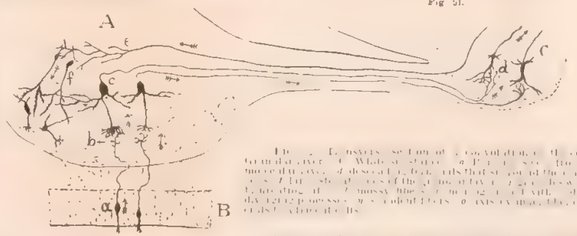


Fig. 24.



Fig. 17.

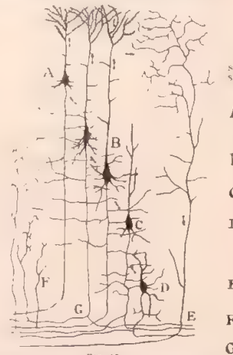


Fig. 18.

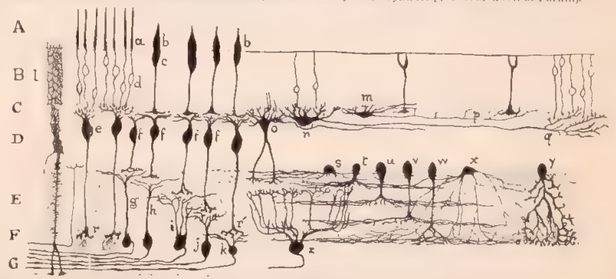


Fig. 25.



Fig. 26.



Fig. 28.

the large, flask-shaped cells called the cells of Purkinje. It has been known for some time that these cells send branches toward the periphery, and that an axis-cylinder process from them is directed toward the fibrous center of the convolution.

When stained by the Golgi method, these cells remind one of the psychic cells of the cerebrum in their size and general arrangement. Yet there are some striking differences. From the large, spheroidal cell body there are given off two or more trunk-like processes, which branch quite extensively and have upon them spines like those upon the panicles of the psychic cells. This ramification does not extend in all directions, but is, as Obersteiner has aptly said, like that of an espalier fruit tree—expanded in two dimensions only, so that when a section is taken across a convolution the processes show as large and fan-like (Fig. 22, *a*), while a section lengthwise of the convolution shows only an edge not occupying more space than the width of the cell body (Fig. 23, *d*, *d*). The cells lie in a single narrow stratum of the cortex. From the lower portion of each a well-marked axis-cylinder process is given off from which collaterals pass to ramify about the processes of neighboring cells, probably assisting to correlate the action of these elements.

Two other classes of cells are in intimate relation with the cells of Purkinje. First, small, stellate cells of the outer layer (Fig. 22, *b*, *b*), whose axis-cylinder processes run transversely—that is to say, parallel to the plane of ramification of Purkinje's cells, giving off collaterals that pass downward and break into fine tufts, enveloping the body of those cells in a fine basket-like reticulum, the *Endkorben* of Kölliker. These cells correlate with themselves the Purkinje cells of a single transverse system.

Second, the granular cells of the inner layer, elements concerning which there has been much dispute, Henle and Merkel considering them as lymphatic elements, Gerlach and Kölliker holding that they are of a connective-

tissue character, while Obersteiner thought that they were special elements peculiar to this tissue. They are now known to be small polyhedric nerve cells with short protoplasmic processes ending abruptly in tufts, and with axis-cylinder processes that ascend into the outer layer and there divide T-like, into branches that run parallel to the convolution at right angles to the plane of ramification of the cells of Purkinje. These *parallel fibers* (Fig. 23, *b*), as they are called, run for long distances, connecting the Purkinje cells of different transverse systems. They seem finally to terminate freely.

Cells of still another class are found here and there in the inner layer—the so-called large, stellate cells (Fig. 22, *f*). These send their protoplasmic processes far toward the surface, while their axis-cylinder processes give off innumerable collaterals that divide and subdivide into finely interlacing branches that occupy nearly the whole of the molecular zone around the granules.

It is difficult to come to any definite conclusion with regard to fibers coming from other regions, as their length is so great that even in the smallest animals there is no possibility of tracing their course from the cells of origin to their termination. Two kinds of terminals are found, both of a very special character.

The afferent fibers for the cells of Purkinje pass up from the medullary substance into the molecular layer and there divide into branches that apply themselves to the corresponding ramifications of the Purkinje cells, ascending among them, as Ramón y Cajal says, like a liana among the branches of a tropical tree. For this reason he named them the climbing or scandent fibers (*fibras trepadoras*).

The afferent fibers for the granular cells of the inner layer are thick and richly ramified. At short distances they present tufts of short diverging branches that terminate freely. This gives them the aspect of a branch covered with mossy growths. They are accordingly named mossy fibers (*fibras musgosas*). Ramón y Cajal suggests

that they are the terminations of fibers belonging to the cerebellar tract of the cord.

The whole system of the cerebellum shows in a most striking manner that it is by contact and not by continuity of structure that nervous impulses are transmitted. It also shows that different parts of the same cell may be supplied with terminal fibers from quite different sources. The bodies of the cells of Purkinje are surrounded by the basket terminals of the stellate cells of the molecular layers, while their protoplasmic processes are in contact with the scandent, afferent fibers that arise from more distant portions of the nervous system.

Such being the general plan of constitution of the nervous centers and of the nerves arising therefrom, there still remains to be considered the nervous structure of the organs of the special sense—the nose, the eye, and the ear. It is well known that the olfactory bulb and the retina are, morphologically speaking, portions of the brain. In many lower animals the bulb is seen to be a distinct lobe projecting from the hemispheres and provided with its own special ventricle, and in the embryo the retina is found to be the invaginated end of a stalk-like out-growth from the older portion of the fore-brain. We might therefore expect to find in these organs an arrangement somewhat similar to that of the cerebral cortex.

The ear has a somewhat different history, and is rather to be compared to a peripheral sense organ that has been gradually withdrawn from the surface, like the spinal ganglia.

Olfactory Organ.—The active cortical agents are represented here by large bifurcated elements called mitral cells (Fig. 24, *c*). These lie in the olfactory bulb in the so-called intermediate or nerve-cell layer. Like the psychic cells and the cells of Purkinje, these send toward the periphery a trunk that breaks up into a tuft of convoluted and varicose processes and give off an axis-cylinder process which extends centrally and ends in the hippocampal area of the general cortex. The olfactory

sensations are brought to these by means of true bipolar æsthesioblasts situated in the olfactory membrane. These present externally one short process for collecting sensations, while from the opposite end a process leads centrally to end in a convoluted tuft that closely intertwines with the similar tuft on the peripheral process of a mitral cell. These intertwining varicose tufts form the *olfactory glomeruli*, which have hitherto puzzled anatomists so much.

It will be seen that the æsthesioblasts preserve the primitive form found in invertebrates throughout the surface of the body. The olfactory membrane is therefore to be compared to a spinal ganglion in which the elements have become spread out superficially. The investigations of His with reference to their development fully confirm this.

Neuroglia cells in considerable numbers are found about the æsthesioblasts. They appear to perform an insulating function and preserve the primitive form which has been spoken of as occurring in the embryonic spinal cord.

Besides the apparatus just described, which appears to be solely for the purpose of receiving and transmitting sensations, other cells are found which, with their connections, appear to constitute a regulating or correlating apparatus. These—the amacrinal cells (Ramón y Cajal)—are situated within the deeper or so-called granular layer of the olfactory bulb, and have this special peculiarity, that they have no process presenting the appearance of an axis-cylinder process. They are small and polyhedral, having a tuft-like expansion directed centrally and a peripheral stem that sends out plume-like processes that come in contact with the lateral expansion of the mitral cells. The centrally directed processes are in contact with the terminals of centrifugal fibers that come in along the olfactory tract.

Certain stellate cells scattered here and there throughout the granular layer appear to be large-sized modifica-

tions of the granular cells and to have similar connections.

It will be seen from Fig. 24 that the path of the sensory impulses is quite simple. Received upon the æsthesioblasts at *a*, they are transmitted to the glomeruli at *b*, thence to the mitral cells *c*, and finally taken up by the hippocampal region at *d*. The regulating mechanism passes from the central organs through the fiber *e*, thence to the granular cells *f*. In either centripetal or centrifugal path but two neurons are employed.

The Retina.—The nervous apparatus of the retina is highly specialized and the homology of the different structures with those found in the cortex is by no means clear. In this case the æsthesioblasts appear to be the rods and cones which are situated upon that surface of the cerebral outgrowth which was originally free and ventricular, therefore a part of the primitive medullary groove. These, like æsthesioblasts elsewhere, are bipolar cells with a specialized cellulipetal expansion for collecting impulses, and another cellulifugal for distributing them to other cells. These nuclei are contained in the so-called layer of visual cells, and their cellulifugal expansion is found in the external-plexiform layers. The latter differs somewhat for the two classes of cells, the rods ending in small spherules, the cones breaking up into laterally expanded tufts (Fig. 25).

The great cells of the ganglionic layer correspond apparently to the psychic cells of the cortex, as they send an axis-cylinder process brainward along the optic nerve and throw out collecting expansions. There is, however, interposed between them and the æsthesioblasts an apparatus which apparently has for its object the assorting of sensations derived from special cells. This apparatus occupies the internal granular layer, and is composed of, first, a series of bipolar cells that take up impulses from the rods and cones and deliver them to the ganglion cells; second a series of laterally extended cells (Fig. 26) that correlate elements of different localities.

The cellulifugal processes of the rod bipolars all appear to end at about the same level, but the cone bipolars represent the remarkable peculiarity of ending at definite and distinct levels in the internal plexiform layer. In mammals at least five such levels, can be made out, and in birds seven (see Fig. 25).

The laterally extended cells are of several different varieties. Some lie within the external plexiform layers and connect the bases of the rods and cones. These, as described by Ramón y Cajal, have the usual short cellulipetal processes and an extended axis-cylinder which may give off collaterals or terminate as a varicose tuft (Fig. 25, *a*, *b*). Sometimes processes from these cells descend to the internal plexiform layer (Fig. 25, *c*). But the most curious and apparently the most important of these elements are the *amacrinal* cells similar to those of the olfactory membrane that form the deepest stratum of the internal granular layer.*

Some of them appear to be assigned to certain levels of the internal granular layer after the manner of the cone bipolars (Fig. 24, *f*, *g*, *h*, *j*, *l*), while others supply several layers by obliquely directed fibers (Fig. 25, *m*, *n*.)

The collecting processes of the ganglionic cells adapt themselves to these peculiarities—some expanding in a a single layer (monostratal), others being confined to two (bistratal), while still others are distributed throughout the entire thickness of the internal plexiform layer (diffuse). It can easily be seen that in an apparatus like this there are marvelous possibilities for combining and co-ordinating impressions made upon the terminals of the æsthesioblasts. If color perceptions are assigned principally to the cones, it may be that in this peculiar structure of the retina we possess a clew to the method by which such sensations are sorted out and isolated so as to produce a visual concept.

* These are the spongioblasts of W. Müller. As His has applied this term to embryonic neuroglia cells, for which it seems more aptly fitted, it seems better to adopt the name in the text proposed by Ramón y Cajul.

Like those of the olfactory mucous membrane, the neuroglia cells of the retina (fibers of Müller) probably have an isolating as well as a sustentacular function. They also preserve the primitive spongioblastic type, passing through the entire thickness of the organ and expanding at either end into limiting membranes. The outer of these—being as Minot has pointed out, near the primitive ventricular surface—corresponds to the limitans interna of the cord; the inner, to the velum confine.

In Fig. 26 are shown the courses of the currents excited by visual impressions received upon the retina. That affecting a cone, *a*, is transferred to a cone bipolar at *b*, and thence to the ganglionic cell, *c*, which transfers it by means of its axis-cylinder process, *d*, *e*, and its terminal filaments, *f*, to cells of the corpora quadrigemina or the geniculate bodies at *g*. These may refer it to a central ganglion at *j* or to the cortex. A similar path may be made out for the currents affecting the rods (Fig 26, *m*, *n*, *o*.)

Peripheral currents are also probably traveling from the brain along the path *p*, *q*, and affecting the amacrinal cells, *r*.

Auditory Capsule.—Retzius has recently investigated the terminations of the auditory nerve both in the semicircular canals and in the organ of Corti, and comes to the conclusion that the epithelial elements of these regions are none of them elements, as had been previously supposed. He finds the nerve terminals proper between these elements, like the terminals of the sensory nerves that supply epithelium in other regions. The true æsthesioblasts lie in ganglionic masses, situated, for the cochlear nerve, in the ganglion spirale; for the vestibular nerve, in the little-known intumescentia ganglioformis of Scarpa (see Fig. 27) that is found in the internal auditory meatus.

The distribution of the processes is essentially the same in both cases. The cellulipetal process ramifies between and about the epithelial cells (see Fig. 28); the

cellulifugal process passes brainward and, on reaching the central ganglia, divides like the processes of an æsthesioblast of a spinal nerve.

It would appear that we have here, as in so many cases in the cranial nerves, traces of an earlier phylogenetic condition. The æsthesioblasts have been withdrawn from the surface as in the case of the spinal nerves, but not to so remote regions. They show traces also of their primitive condition in that they remain bipolar, as in fishes, never assuming a unipolar type as in the spinal ganglia.

By this hasty review of the main features of the new discoveries it will be seen that we are entering upon an entirely new era in investigations of the nervous system. We experience something of the shock which an inhabitant of the temperate zone might feel if suddenly placed in the midst of an unknown tropical forest, surrounded on every side by new and strange forms. All the ideas that we have had concerning the development and interrelations of the structures must be revised. It is evident that we are as yet on the very threshold of inquiry; the entire nervous system must be re-examined, the history of every ganglionic center must be traced. This is rapidly being done, and we may expect that in the next few years important additions to our knowledge will be made, which will be unquestionably followed by practical results of great moment.

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Psychology of Queen Christina of Sweden.*

By Dr. F. DeSarlo.

THE characteristic culture of this second half of our century is largely due to the great development of biological and historical science. In other times, it is true, history was perhaps a more grandiose reconstruction of a certain period traversed by humanity, but there was too much grouping and fusion of events, in such a way that the reader very often could not succeed in tracing the connection between the facts brought before him in consequence of the absence of many intermediate links, which had been deemed superfluous and unimportant. History thus presented itself as a succession of events (for the most part, wars) of which one frequently failed to comprehend the significance. The immense progress made in the experimental sciences having exerted a great influence over the education of modern judgment, has also induced a change in the methods followed in historical sciences; hence, we now have greater care of particulars, more diligent investigation into minutiæ, and a constant recourse for aid to other sciences in order to comprehend some historical figures otherwise inexplicable. It is easily understood how psychological science would be frequently called into requisition in history, and in fact, normal as well as pathological psychology has given excellent results in furnishing keys for the solution of many enigmas. I shall not stop to enumerate all the works which have been done in this line, nor shall I touch on the errors into which one is, in this respect, sometimes liable to

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fall, reserving to myself the privilege of saying something on this in my concluding remarks.*

There are in history some figures which have the power of irresistibly attracting and fixing our attention, inasmuch as throughout their lives their actions are so full of interest and so far removed from the commonplace, that the more deeply one studies them the more active curiosity becomes to penetrate still further into the depths of their minds. Nor is this attraction diminished by the fact of their having lived at a time far distant from our own. One of these figures is certainly Christina, of Sweden, who played so important a part in Italian history of the Seventeenth Century. Christina, daughter of Gustavus Adolphus—"Hero of the North," as Schiller calls him, or "Lion of the North" as he was known by his contemporaries. Many in the past have occupied themselves with the Queen from an historical point of view, and it only remains for us to base on these historical studies our judgment on her mental state.†

Hugo Foscolo observed in her above all other characteristics (sincere love of art and great talent) a ferocity which caused her to resemble the sad heroine of the Edda and of the Nibelunghen Lied, accompanied by so peculiar a mode of life and thought, that it at times approached insanity. D'Alambert agrees with Foscolo, while Muratori,‡ always mild in his judgments and out of respect to a memory dear to Catholicism, contents himself with saying that Christina was in mind, talent and literature superior to her sex. Recently, Claretta§ undertook to "pennelleggiare al vivo l'ingegno, la bizzarria, le

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* Let it not be imagined that psychology and critical history are an exclusive product of this century. One requires only to read the biography of "Alexander, or the False Prophet," written by Luciano, in the second century of our era, to be convinced that our ancestors also understood these. There was, however, this difference, that while they sought to explain everything by means of imposture and trickery, to-day there is a tendency to have recourse to pathology for the explanation of similar facts.

† Corrado Ricci has recently written a noteworthy article on Christina ("Nuova Antologia"), which supports our views.

‡ Cretella. "Cristina di Svezia in Italia." *Gazz. letter di Torino*. June, 1892.

§ Claretta. "La Regina di Svezia in Italia." *Torino*, 1892.

incoerenze e le buone e lodevoli applicazioni di quella strana e cervellottica principessa,"* accompanying his exposition with interesting documents. Lastly, without mentioning all the others who more or less recently have written of Christina, we shall note here the essay published by Stearn,† with a view to determining her temperament from a psychiatric stand-point, in which he arrives at the conclusion that her mind must be relegated to that indeterminate zone which divides reason from insanity.

Christina's character is of so complex a kind that at first view it seems to have been formed in order to defy all the definitions and schemes of modern psychological analysis. We do not intend to enter into all the details of her life, but merely to note such important events in it which have weighed with us in arriving at our judgment of her character. To proceed in order then, we begin by fixing our attention for a moment on the characters of her parents. Her father, the last of the Vasa dynasty was "that snow giant" (as he was called by the Emperor Ferdinand, alluding to his golden beard and white complexion), who, by victory after victory, reached the center of Germany, into which, for several centuries, no foreign conqueror had dared to penetrate, and afterwards died heroically at the battle of Lutzen.

He is judged by history to have been one of the greatest men of his time; of a high, but not haughty, spirit; proud, but generous to his enemies; just and sincere to his allies; he assumed in time that air of condescension of superior men, who feel themselves above those by whom they are surrounded. His instinctive piety gave a tint of religious exaltation to his courage and made him confound his cause with that of Heaven and to consider himself as an instrument of divine vengeance.‡

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* "To vividly depict the genius, the oddity, the incoherence and the good works of that strange and brainy princess."

† Stearn. "Hristina Korolewa Szweezkaia tr Kowalewski." *Archiv. Psichiatrii Neurologii i Cudenoi Psichopathologii.*

‡ Schiller. "Thirty Years' War."

His numerous victories never, however, succeeded in intoxicating him to such an extent as to deprive him of his clear views of things, for in no researches can we find any notice of a lack of equilibrium in his character and no baseness nor barbarous acts, cloud in any way the splendor of his glory, though he lived continually in the field of battle, and had before him as examples the unheard-of atrocities of Tilly and Wallenstein.

Hence, from her father, Christina could inherit only good qualities, such as genius, courage, energy and a tendency toward the magnificent. Her mother was Mary Eleanor, daughter of John Sigismund, Elector of Brandenburg. She was beautiful, but of a vacillating temperament like her father, excessively vain, weak-willed, and it appears, but little educated, or at least she occupied a much lower intellectual plane than did her husband. Before deciding how the different characteristics of her parents were fused in Christina, we will speak of the education she had, especially in her early years, for the two influences, hereditary and educative, go hand-in-hand.

Christina's birth was not received with much enthusiasm, for her parents had desired a son, and had expected this the more as it had been prophesied by astrologers. Indeed, as Claretta remarks, the latter seemed to have made only half a mistake, for the creature born was heavy, dark and had a masculine voice. The poor mother was exceedingly disappointed and continued so as long as she lived. The father, however, soon became very much attached to the child, and it is said that it was a hardship for him to live away from her. Once when she was ill while he was absent, he took no note of obstacles, but traveled day and night to see her, if only for a moment. Christina had always great power over her father,* so much so that even when she was quite a child he took her with him on hunting expeditions

* It is said that her father before setting out for the Thirty Years' War, when she was only four years old, carried her into the Senate to make them acknowledge her as the future Queen of Sweden.

and into the field of military maneuvers, making her assume, probably for convenience, masculine dress, and having her ride at his side. From this it may be deduced on the one hand that Christina in her early years received a masculine education, and on the other that she soon became *l'enfant gâtèe* of her father. What would Christina have become had her father not been compelled to leave her when she was four years old, in order to go to the Thirty Years' War? We shall not attempt to solve this problem, but certainly judging from what she afterwards became on account of the absence and death of her father, it may be argued that her life would have been a very different one. However, Gustavus Adolphus died and Maria Eleanor kept her apartments always in mourning, their darkness being broken only by melancholy ceremonies. At the head of her bed she had suspended a golden casket containing the heart of the deceased. She would lament and weep for hours and wished the young Christina to assist at these functions, making her sleep with her in order to have her always present at these scenes.

Besides the five great crown officials, assigned by her father as tutors, there were others who contributed, as Claretta observes, to give her false conceptions of things.

There is no doubt, however, that Christina was by nature very precocious, for the fact that she became very soon disgusted with the atmosphere in which her mother and tutors wished to compel her to live, proved that she had already reached a degree of development beyond that proper to her years.* She rebelled and refused to follow the same kind of life, and gave herself up to her studies. Stearn considers that these studies were absolutely phrenetic. At ten years she gave twelve hours a day to mathematics and languages; at sixteen she had

* How independent and indifferent she was is shown by the following anecdote: Her mother having one day reproved her by saying that had her father lived he would not have consented to so many pastimes and amusements, she did not hesitate to answer that in that case it was better he was dead. We cannot deny that such a reply from a child betokens a character far from affectionate.

already mastered six languages, and understood literature, music and archæology; at eighteen she presided over the Senate. She wished to understand everything, for nothing was difficult to her, so versatile and highly gifted was she. Just as her father's conquests and victories had been unlimited, so she seemed to think there were no bounds to knowledge; and it is probably no exaggeration to affirm, that Christina surpassed in talent and knowledge, all the noted women of history. Although she was strong and robust, the dedication at ten years of age of twelve hours a day to mathematics and languages, was not a thing which could be done without leaving some effect, and it seems to us this must be given a place as one cause of subsequent exhaustion.

Everyone knows what a great influence is exercised over the minds of the young by the people surrounding them, and it is noteworthy that Christina was surrounded by individuals who were in every way unsuited to her. Instead of being with people of her own age and sex, she was always with adults and men, who could only admire her and thus favored her inclination to immoderate studies, and prolonged labors. Thus the education imparted to Christina, which was of the most foolish and erroneous kind, gives us in part, the key to her future life. A child who should have devoted the greater part of the day to pastimes and recreations, was placed instead in totally unsuitable surroundings. It may be imagined what a mistake was made, when a child of such precocity as Christina was placed in relation with scientists, such as Grozio, Cartesio, Vossio, Ireisheim, etc., and also with a French doctor Michon, *alias* Bourdelot, the son of a barber who, with his arguments and vacillating principles, succeeding in gaining the esteem of the young queen. To whom must the fault of this education be ascribed? It seems to us that Oxenstiern should not go free of blame.

After this, the fact is no longer incomprehensible that Christina during her whole life abhorred the company of

women as much as she always hated the matrimonial bond. Some authorities attributed the latter characteristic to the effect of the dis-illusionizing consequent on her being unable to marry Count Magnus de la Gardie, whom she seems to have loved passionately.

The Thirty Years' War, in which she appears to have co-operated, being at an end, and the field of military glories in which her romatic mind found great scope, being closed, it became necessary for her to apply herself to the administration of the Government. It may be noted here that the enormous expense to which Sweden had been subjected by her numerous wars; first with Poland and then with Austria, and the extravagance of Christina's mode of life, had left the finances in such a condition that the creditors, however little they might have claimed the settlement of their accounts, would have been in a position to cause great annoyance. It cannot be denied that Christina from the first had fixed her mind on arranging the disordered finances, hoping to place the country in such a condition as to complete their glorious undertakings. To this end, she spared neither fatigue nor study, and was already *au courant* with the methods of conducting the government in all the courts of Europe. Unfortunately, however, her efforts were unavailing, whether on account of the magnitude of the obstacles, or from the weakness which she developed while carrying on the battle. The fact is that at the age of twenty-two years she presented a notable change in her character, and while at first she had been all intent on governing, she now became exhausted and tired and desired to lead her life according to her own fashion; while at first she had shown energy and strength of will in attending to the well-being of her subjects, she now showed herself frivolous and immoral, so that we seem to recognize in her a second personality superimposed on the first. What reason can be given for this change? Is it to be attributed to hereditary influences? It is known, in fact, that children not only inherit con-

temporaneously in a mixed fashion the characters of both their parents, but can also inherit for one part of their life the character of one; and for another, that of the other parent. In this case Christina in youth and adolescence presented principally the characteristics of her father, and in maturity those of her mother, becoming vain, frivolous, extravagant, intriguing and capricious. It is certain, however, that the fundamental qualities of her father (knowledge and energy) were never lost, but were so to speak, covered and over-powered by those of the mother. Or is the above-mentioned change in character to be attributed to the difficulties met with in her government, and the dis-illusionizing consequent thereto? One of her biographers says that she had a great mind not weakened by struggling, a tendency to the great and magnificent, but at the end "*rimace vinta.*" We, truly, cannot give preference to one cause more than another. To us it seems that both, though we attach greater weight to the hereditary influence, served to prepare the way for the development of the two most important events of Christina's life, viz., the abdication of the throne and her abandonment of the Lutheran religion.

At first sight to search, to explain such events, seems an exceedingly difficult undertaking; but if we take into account, on the one hand, the changes which Christina's character underwent when she was twenty-two years of age, and, on the other, the atmosphere in which these events developed, all becomes clear and evident. Christina had one of those enthusiastic natures, passionately devoted to their ideals, for the attainment of which they will make any sacrifice whatever. She had inherited from her father the faculty of bringing every energy to bear on the completion of the most difficult enterprises, and it was in consequence of this that in her youth she dedicated herself entirely, to the administration of the government of her country, in which she gave proof of uncommon strength and wisdom. She had hoped that her efforts would have been crowned with success, and

that she would have been able to succeed in really giving to Sweden that importance in Europe which she had eyed longingly from childhood; but she soon perceived that her dream would never become a reality, and it was her bright intellect which never lost its clear vision of matters, which contributed in great measure to undeceiving her. A less ardent, less cultured nature, would probably have resigned itself to the course of events, would, so to speak, have allowed the stream to run its course, and would have called for aid from influential personages; but Christina who, as we have already said, at her entrance into maturity began to present the characteristics of her mother (frivolity, vanity), neither had the strength to fight, nor could she resign herself to her fate; hence the resolution, which appears so strange, to abandon the throne; which resolution was merely the reaction of her spirit to the obstacles opposed to the realization of her ideal.

When asked the reasons which had led her to abdicate, she answered only that she intended to enjoy all the pleasures which private life can give. Nor did the numerous remonstrances, opposition, and prayers which were made serve to swerve her from her purpose; she was immovable; and in 1654, in the grand portico of the city of Upsala, with great tact, she resigned the scepter, the crown and other regal ornaments.

Now there was an almost complete transformation in her; her ideas of liberty and complete independence at last found ways to express themselves, without being first detained in the Nesso chamber of court ceremonial. Her mind had now shaken off the burden of thoughts of the administration of the government and she felt for the first time really mistress of herself. And just as much as her tastes and inclinations in the past had been repressed and kept in abeyance, just so much in the reaction, now they claimed to be gratified, and every day it may be said that she imposed on herself new duties; felt new needs of which in the past she had probably

never even thought of. Everything that was methodical, measured or limited, fatigued her, everything that was formal or conventional bored her; all the "*serietà nordica*" (northern gravity) must give way before the great disturbance of her mind, which now desired to wander as freely in the field of art as in life. From this arose the thought of abandoning her native land and going to Italy, that country in which art and nature seem to have united to make the sweetest of dwelling-places.

Christina at this time felt the need of cutting herself loose, so to speak, from all that bound her to her past life; she, wishing to destroy all that northern gravity, naturally felt that in order to do this it was necessary to abandon the principles on which this was founded, and was the cause of it. Such a foundation was, as everyone knows, furnished by the Lutheran religion. Hence it was that Christina hesitated not an instant to form the resolution to complete the act which would make her an alien to her native land, and which must bring her on the one hand many friends and adorers, but on the other furious enemies. After her abdication she left the seaport of Malear, and on reaching Denmark, cut her hair short, assumed masculine attire, armed herself and went to Münster, where she visited in her Amazonian garb, the Jesuit College, to which she gave 200 ducats; from there she went to Antwerp and thence to Brussels, where, on the night of December 25th, in the chapel of the Archduke William, she secretly placed her abjuration in the hands of her confidant, Gian Battista Gomez, Dominican friar. The public abjuration took place at Innsbrück, at the feet of Olstenio. An abjuration made by a woman like Christina, intelligent and cultured, is a matter worthy of our attention, for it is a complex psychological phenomenon, especially when we consider that she who was led to take such a step was the daughter of Gustavus Adolphus, who was known as the "Paladin of Protestantism." Many have said, perhaps in order to make trouble, that Christina's abjuration was only one of the numerous

peculiar actions she was in the habit of doing; others, that it was merely an act of convenience, so that she could go to Italy and be received and fêted by the Pope; others (Stearn), that it was merely her artistic soul that caused her love of Catholicism, but that she was really an atheist. What is the truth? Certainly Christina was not possessed of a very religious nature, and to this her excessive culture had in part contributed, but above all her intimacy with the atheistic Dr. Bourdelot, her favorite, was to blame; but it does not seem to us that Christina was a thorough unbeliever, and that it was an act of hypocrisy on her part to solemnly embrace Catholicism, when we take into account her great mental gifts, amongst which were sincerity and loyality, of which she proved herself possessed always. To us therefore it seems that Christina had a fund of religiosity, which had assumed a determinate and stable form, and that she, finding herself in a struggle with use, custom and northern traditions, instead of giving the preference to the Protestant form of religion, felt herself attracted to Catholicism, which had the advantage of appealing to the artistic side of her nature. She who so loved all kinds of amusements and diversions allowed her fancy to be taken captive by the externals and all the luxuries which surrounded Catholicism. But certainly, neither had the Pope cherished the illusion of making an ardent devotee of her, nor had she any hestitation in exposing the machinations of the popes, cardinals, bishops and priests.

"Mes occupations," she writes to her friends "cout de bien manger et de bien dormir, étudier un peu, causer, rire et voir comédies Françaises, Italiennes et Espagnoles, et passer le temps agréablement; enfin je n'éconte plus de sermons." To Mademoiselle di Sparre she writes: "Enfin je n'éconte plus de sermons; je méprise tous les orateurs apres ce que dit Solomon; tout le reste n'est que sottise, car chæun doit vivre content en mangeant, buvant et chantant."

It would take too long to give in order and in detail

all the events which took place in Italy durng the sojourn there of the queen of Sweden; this has been admirably done by Claretta. It is of interest to us only to note in passing such deductions as may be drawn from his narrative, regarding the psychology of Christina. The characteristic which strikes us most forcibly is her great fickleness and contradictoriness; to-day she desires that which she did not wish yesterday, and to-morrow she will certainly not want what she desired to-day; at times she is disgusted with the different popes, and we see her showing herself as energetic, careless, disrespectful and sometimes also ungrateful, but only allows a few days to pass and behold she becomes humble, prompt to bow her knee and implore pardon. In the course of a few more days Christina again becomes bad-tempered, irritable, despondent and disposed to cast everything in the teeth of the pope. The contradictions in which she enveloped herself were absolutely innumerable, and indeed it may be said that her mind lived by contradiction; she loved simplicity but woe to him who came before her less the smallest particular of ceremonial, so much so that the greater part of her troubles with the ambassadors of the various European powers, and with the members of the Roman College, proceeded from faults of this kind. She abandoned her kingdom in order to live a free life, and full of faith and enthusiasm she went to Rome, but after a little she became tired of this and wished to return to rule in her own country, but not being able to do so, she even thought of laying claim to the throne of Poland. It was on this occasion, however, that she showed a gravity and forethought of which perhaps she would not have been suspected; for not only did she refuse to entertain great visions of the probability of her success, but she was firm in not wishing to come to an agreement in which she was required to promise that as soon as she ascended the throne she would marry and change her religion. She had a great contempt for what she

knew to be charlatanry and imposture, but she delighted in astrology and chiromancy, gave ear to diviners, lost time and money in search of the philosopher's stone, and nursed the illusion that she possessed the secret of prolonging life beyond a century. She abhorred the formality and conventionality of courts, but she esteemed herself always an absolute monarch, and wished to command and dispose of things always, as such. She showed much haughtiness in the presence of the cardinals and popes, but she did not disdain to protect delinquents and to be intimate with grooms and even worse individuals. Inconstant always in love as in hate, she caused Monaldeschi to be put inhumanly to death, because he had spoken slightingly of her. Full of contradiction, she remained to the end of her life when she pronounced these famous words: "Io voglio vivere quanto più allegramente e lungamente potrò; la morte l'avvicinarsi della quale io presento, non mi spaventa; io l'aspetto senza dolore e senza timore."

Another characteristic brought to light by the account of Christina's actions during her sojourn in Italy, is the strength of which her actions all speak. She had a proud desire to do everything differently from other people, to appear singular in all her actions as in all her tastes and opinions. The greatest disrespect which could be shown to her was to imitate her; in such a case she either flew into a rage or suddenly had recourse to some other stratagem by means of which she would be the only person to do things in a particular way. It was for this that she showed such a mania for protecting the worst kind of wretches and all those elements which constituted the refuse of society.

It is not necessary to dwell long on the tendency of the Queen to pastimes, diversions and feasts, for we have touched on that above, but it would be well to call attention to her egoism which, it may be said, transcended all her other characteristics. No lasting or deep affections are met with in her, outside of her love of her own

personality; if ever any trait of generosity is found it is always done with a utilitarian view, hoping that the good she did to others would reflect on herself. More than once she showed herself ferocious and inhuman, and it was always when "Her Most Gracious Majesty" had been in some way offended. And, though recognizing that the finances of the Pontifical Court were at that time in anything but a prosperous condition and that in order to cover her heavy expenses they must burden the poor Romans with taxes in one disguise or another or neglect their looks of benevolence, she never hesitated to demand money from the various popes, and they for political reasons were compelled always to give it. The sojourn of Christina in Italy was indeed a calamity, as far as the pontifical finances were concerned.

So, to make a *résumé*, we may say that the leading characteristics which Christina showed during her stay in Italy until her death, at the age of 63 years (in 1689), were immorality, fickleness, vanity, a mania for making herself "interesting," numerous contradictions of character and egoism. This is sufficient to enable us now to begin to formulate briefly our judgment of her mental condition.

It must be agreed that the psychological physiognomy of Christina of Sweden is not one that appears complete at first sight and on a superficial examination; on the contrary it presents many aspects, and like a polyhedron, has many faces. The fact that she succeeded so soon, if finding her level is a proof that her intelligence found itself in antagonism with the surroundings in which she lived,* she did not understand, in fact, could not adapt herself to the knavish customs, to the numerous prejudices, to the empty formalities, which, especially in matters of religion, at that time predominated. She felt herself at a disadvantage in the midst

* A proof of this is furnished by the fact that Christina, after having founded the Roman Academy, to which the name of "Arcadia" was given, placed as the first article on its statutes, that it was absolutely forbidden to return thanks to her.

of those cardinals and prelates whose lives were so at variance with the spirit of Christianity. The politics of the time also aroused her anger, and nothing was more common than to see her applaud a generous act on the part of some State, or blame some indecorous action. Anyone considering Christina only from this point of view could do no less than judge her a woman of genius who was far in advance of her time. But besides her high intelligence, her love of classical studies, her taste for the arts, there must be noted her tendency to intrigue, to commit mean acts, to condescend to acts unworthy not only of a queen, but of any gentlewoman, and to push herself into matters which did not concern her. All these things prevent her from being placed in any ordinary classification. Thus, the lack of uniformity in her thoughts and in her actions is the fundamental characteristic of Christina's mind, a lack of uniformity which shows a weakness of will-power and energy and of that particular power which constitutes the nucleus of a human personality. Without this, indeed, it is impossible to have unity of thought and act which makes an individual at harmony with himself. Christina had normal perceptions (she never had visions nor hallucinations), a lucid, quick intelligence (as shown by her writings), but a weak will.

And emotivity? Regarding this we find in her what is present in all those who lack those inhibitory powers which contribute, on the one hand, to give unity to the character, and on the other, impeding, continuous and partial reactions to single impressions and being an obstacle to incessant loss of energy, cause the emotions to develop in the mind in a slower and more orderly but more intense manner; she had also a tendency to go in search of all those extraordinary facts which, by their singularity, were capable of stirring up her whole nature. In such a character is linked the restlessness peculiar to the queen, which fearing neither discomfiture nor repulse, ventured always on something new, and also her mania for going in search of exceptional cases.

It has been said that Christina was exceedingly imaginative and fantastic, and this is so. The vastness of her culture, the brightness of her mind and the uninteresting surroundings in which she lived, all contributed to make her so. The great difference between her ideals and her real life would naturally carry her away and advance her further into the realm of dreams.

We shall not delay longer on the other psychological characteristics of Christina, as they represent the corollaries of those already mentioned. Hence, it is easily understood how an egotistic character—one with so weak a will could not do otherwise than reveal itself to society as immoral.

At this point one is met by the question: Is Christina's character, as it has just been delineated, to be placed among the normal or abnormal? It has always been said that she had an unbalanced, peculiar, eccentric, whimsical temperament, and Stearn, in the elaborate study before mentioned, places her in the intermediate zone between the sane and the insane. To us, however it seems as if such a definition were too vague and indeterminate and that it is merely the paraphrase of an old, common opinion. If pathological psychology is to give us a term by means of which we can throw light on a given historical figure, it is necessary for it to descend to limited and precise minutiæ, the more so as we can now lay aside that generality which passed current only in the days of which we are writing, which placed a figure among the number of the divine or of the human, of the celestial or of the terrestrial. At present we wish, first of all, to diagnose the disease, then with regard to historic individuality, to note what part that disease played in the production of the events which occurred in the life of the personage in question. Now, in the case of Christina, is a definition of her mental disease possible? Is it possible to make a diagnose of her affection? We believe and frankly say that the psychological characteristics met with in her, authorize us to state that Christina in our judgment was the victim of *hysteria.* Nervous

pathology, indeed, admits a peculiar disease, characterized by a complexity of the most varied phenomena, of which there are a few which are capable of leading us to a safe diagnosis. These are: egoism, vanity, contradictoriness, moral insensibility, a tendency to be fantastic and to wander, frivolity and a lively intelligence, all of which may for the most part be regarded as consequences of a weak will.

And with this the psychopathology of to-day would have made answer. Now it seems to us that there is room here for investigation, as to how far modern science can be benefited by such an answer. In the past it appeared quite an advancement to be able to judge by means of a formula or to incorporate in a scheme a given historical figure, which till then had been regarded as extraordinary; and it cannot be denied that thus on being successful in classifying among diseases of the human brain some of those which had been reputed "divine actions," we have shown a progress in knowledge. But now a new exigency presents itself; we may content ourselves with a simple definition of the mental state of a historical personage, but we wish to know in what relation the development of a given form of mental disease stands to the surroundings in which the person lived, as, on the other hand, it is necessary to know the part played by the disease in the accomplishment of the person's acts. It is only after having answered such questions that we can be said to have interpreted a historical individual by the light of psychopathology. If we had stopped at the simple definition of Christina's mental state, characterizing her as hysterical, what would we have done? We would have expressed comprehensively, in a single word, the whole of her psychological character, but science and history would have gained nothing. Hysteria, in fact, expresses a group of the most diverse phenomena, which may be determined by numerous causes, and until we have succeeded in ascertaining these we signify by the word *hysteria* only a number of symp-

toms deprived of any real value. In the case of Christina, for example, that assemblage of symptoms (egoism, vanity, frivolity, weakness of will), which we have called hysteria, may well have been due to other causes, and also have been produced very differently from those of any other form of hysteria; and the task of historical psychopathology is to exactly place *en evidence* the cause and evolution of a given pathological form in relation to historic surroundings. It must be borne in mind that morbid conditions of the mind are not like common diseases, each of which has a cause, progress, anatomical basis, course and fixed termination. In every case, on the other hand, it may be said that there is something peculiar and special, for each person has a different mental constitution and lives in different historic and social conditions. And if we consider the events of Christina's life we are at once convinced that, had she been educated differently, and had she been able to apply her genius and excess of mental energy to great and glorious enterprises she would not have appeared to us as hysterical. Hysteria, indeed, in her was not something decreed by fate which she had inherited from her ancestors, nor had it followed one or more definite causes, but it represented the epilogue of a great battle of elements and the final result of the great opposition which her intellect encountered in the surroundings in which she lived.

Hysteria, therefore, represents the termination, the consequence, the causes of which may be most diverse, and until we have determined these we cannot be said to have interpreted psychologically a certain historical period, but only to have expressed in a word, what was formerly done in more than one. What fundamental difference exists between saying Christina was hysterical and affirming that she was of a giddy, egotistical, capricious, fickle, weak character? None it seems to us; but if, on the contrary we can show in what way her mind, in given conditions, developed gradually; if we try to show clearly how her mind, partly by hereditary influence

had been constrained to model itself into a certain shape, and if finally, we follow the action which the spirit of her century exercised over her will, then shall we have reconstructed, scientifically, a historical figure. In such a case the diagnosis of hysteria becomes an accessory fact to a long series of matters which are very important and worthy of recognition. Hysteria is not, therefore, the fundamental cause which determined the course of events of Christina's life, and gave to it its peculiar psychological physiognomy, but is only the external expression or the effect of profound internal factors. It is clear, however, that we cannot deny that many of Christina's acts must be attributed to the hysterical turn of temperament which developed in her; but these are only secondary, accessory or subsequent.

We have already observed that one of the tasks of psychological history is to inquire up to what point the disease had taken part in the production of acts, famous or otherwise, which had been done by the person under examination; and now we must insist, because it seems to us a real danger, that of desiring to make a collection of the varied activities of the mind, and calling them morbid because there is one abnormal one met with.

We conclude that morbid mental conditions must be considered as complicated phenomena which presuppose variable genetic factors and by determining these in each case the importance of psychiatry in history is much diminished. Indeed it appears to us a delusion to believe that one of the foundations of history may be the pathology of mind. We do not deny that in some rare instances it may be an important aid, but for the most part it only substitutes one word for others, enclosing itself in a faulty circle of its own. The positive method ought not to stop at calling by a name stolen from pathology (often considered only as simple analogy), a collection of historic phenomena, but must proceed to trace the genesis and mode of development of these phenomena, which morbid or not, must have their causes and nature investigated

Medico-Legal and Psychological Aspect of the Trial of Josephine Mallison Smith.

HELD FOR MURDER, IN PHILADELPHIA, PENN., NOVEMBER 29th, 30th, 31st and DECEMBER 1st, 1892.

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ON Dec. 19th, 1891, Josephine Mallison Smith shot and killed John Hobbs, at Powelton Ave. Station in Philadelphia. Her trial came on Nov. 29th, 1892, before Judge Biddle, in Court of Quarter Sessions in the City of Philadelphia. The defense was insanity, the writer having been engaged for many months previous to the trial in eliciting the whole life history of the prisoner, in order to arrive at an opinion respecting the true psychological aspect of the case. The ground taken by the Commonwealth was that the prisoner was a depraved girl, who had threatened to kill the deceased, and who out of jealousy and revenge did kill him, and that it was simply a case of murder in the first degree. That the case was one of wickedness. The ground taken by the defense was that since the age of fourteen the prisoner had been a sick girl; that she had been suffering from disease of the mind and that an examination into the whole life history of the prisoner showed very conclusively that there had been since the age of fourteen, a subjective morbid condition of the nervous system, which had constantly and continuously misled her mind and conduct, and that the act was the product and outcome of disease. That the morbid sexual perversions were related to her mental disease instead of being acts of wickedness or immorality as alleged by the learned

District Attorney. A very careful examination which we made into the psychological aspects of this interesting case, which extended over a period of some months, revealed the following facts: The prisoner had since the age of fourteen years been addicted to self-abuse.

During most of this time she had suffered from ovarian disease, and on Aug. 21st, 1891, Dr. Price, of Philadelphia, removed both ovaries, and found extensive disease with pelvic abscesses and pus sacs.

During the past few years the prisoner had appeared to be suffering from mental anxiety and distress. Her appetite was variable and poor. She not only had a disposition to commit suicide, but attempted it twice.

For years she had exhibited the emotional sensibility which in our opinion indicated deep-seated disease of the nerve-centers. She suffered from insomnia; she suffered from depression; she frequently manifested excitement; she would not answer questions when addressed.

For years she appeared to be suffering from a subjective condition of the nervous system such as would mislead her mind and conduct.

Her special senses were affected, and she had hallucinations. She suffered from the condition of over-sexual excitement known as nymphomania.

Her stomach, appetite and condition of the bowels were not normal.

Her habits were filthy, dangerous, suicidal, destructive and indecent.

She complained of pains in her head.

She appeared to have lost her relish for existence, was depressed and unequal to the ordinary duties which called her into social life. She was cheerless, moody and taciturn. She was fearful and constantly anticipating some dire catastrophe. She was easily moved to tears by trivial circumstances. She could not be argued out of her gloomy forebodings. She attempted self-destruction twice before committing the murder. Her tongue was flabby, very pale and indented at the edges. She

complained for years of a fixed, dull pain or of an ill-defined sense of oppression in the head.

As a rule her skin was harsh, but at times it was moist and clammy. Her physiognomy was peculiar and expressed sadness and fear. Her eyes were motionless, and directed either towards the earth or some distant point; her look was askance, uneasy and suspicious. Her affections and disposition appeared to be perverted.

From the age of fourteen she had shown a morbid perversion of the natural feelings, affections, inclinations, temper, habits, moral disposition and natural impulses, without any very remarkable disorder or defect of the intellect—abnormalities of conduct, feeling and impulse, rather than of conversation. She manifested peculiarities of dress, and had, as I have said, a peculiar physiognomy. She manifested despondency, fear and despair far beyond the intensity in which these emotions usually affect the sane mind.

These were the psychological facts in the case of Josephine Mallison, before the overt act was committed. She finally goes to visit a mother, and while there steals a pistol. She met her lover, who had been intimate with her, by appointment. He endeavors to avoid her. She overtakes him, grasps him by the coat collar and shoots him. She displays no emotion and is cool and self-possessed, save a sort of nervous trembling. She sits down on the steps beside the body and calls him softly by name. She expresses no regret, makes no attempt to escape, and offers no resistance when arrested. Her eyes at this time have a wild, glassy look. Now was this girl with her foregoing life-history capable of controlling her own conduct, of avoiding the compulsion of disease toward crime? and was the overt act the outcome and product of insanity? To my mind it certainly seemed so, and from this stand-point we prepared the medical part of the case.

On the fourth day of the trial, after several physicians, who had attended the girl at different periods in her life

prior to the commission of the overt act, had testified substantially that they had discovered an abnormal mental and physical condition at each interview; and the various members of the family had testified to the same facts; also a trained nurse, who had charge of her after the removal of the ovaries by Dr. Price in '91, it became evident that the defense had a very strong case. The case was now likely to be continued into the next week, which would have necessitated the trial Judge having to sit over his term which expired on the following day, and neglect other important duties in another court. An arrangement was therefore entered into between the District Attorney and Counsel, whereby the defendant, through her Counsel, withdrew her plea of not guilty, and entered a plea of guilty of murder in the second degree, and the jury, instructed by the Judge, immediately rendered a verdict in accordance with this mutual arrangement, with the understanding that after being sentenced to twelve years in the penitentiary by the Judge, which was done, no objection would be raised by the District Attorney to her removal to the State Insane Asylum for the same period which she would have to be confined in prison. Thus for reasons of expediency abruptly closed a rather remarkable case. If the case had gone on to its legitimate conclusion the facts would have fully warranted any jury in bringing in a verdict of "Not guilty, on the ground of insanity," and this would probably have been done. Certainly, if it had not been done, it would have been a miscarriage of justice. As it is, the girl goes to an asylum, where she belongs, and where she should have been placed long ago. In justice to the family, who are very intelligent people, I should state that some years ago they had called in two physicians for that very purpose, but they had given it as their opinion that although the girl was insane, she "was not insane enough" to warrant them in giving the necessary medical certificate for her commitment to an asylum.

The case of Josephine Mallison is closely related to

to a class of cases, which I have written of under the head of "Morbid Sexual Perversion as Related to Insanity," as follows:

MORBID SEXUAL PERVERSIONS AS RELATED TO INSANITY.

Reliable facts are of course most difficult to obtain, and such figures reveal little of the real truth; the extensive mental mischief done; of which there can be no doubt whatever. These morbid sexual perversions are most commonly met with in a love of the same sex in both male and female subjects. They are generally associated with more or less mental weakness and a state of psycho-sensory insanity, and are the results of a faulty nervous organization. Although sexual perversion may not necessarily be by itself a perfect proof of insanity, yet in any given case where we find a female developing sexual love for one of her own sex, or a male subject from childhood up showing feminine tendencies, shunning boyish sports, assuming female costume, and developing platonic and sexual love for persons of the same sex, we may strongly suspect the existence of psycho-sensory insanity; by which I mean an abnormal state, in which there is a morbid perversion of the natural feelings, affections, inclinations, habits, moral disposition and natural impulses, without any remarkable disorder or defect of the intellect or knowing or reasoning faculties, and without delusions. It seems to be a reasoning monomania and sometimes an erotomania. The conduct is affected more than the conversation, but the patient is none the less insane. We often find the dispositions and habits changed, the affections perverted, and, finally, either a maniacal excitement, during which overt acts of a destructive character are committed, or else a weakening of the mental faculties, ending in dementia. We may have an instinctive psycho-sensory insanity, hurrying the patient on to instinctive and automatic acts not preceded by reasoning, and a reasoning psycho-sensory insanity, determining acts which are the consequence of a certain intellectual operation. That a person premeditates a crime is no proof at all that such a person is not insane, as the insane premeditate very often the overt acts they commit, and where the compulsion of disease toward crime is so strong that the patient's will is weakened by the *vis-a-tergo* of the insanity.

There is the absence of self-control produced by disease, and the patient, though well aware that the act is wrong in some cases, has no power of resistance at all. The mental functions of feeling, knowing, emotion, and willing are not performed in their regular and usual manner, and there is very often morbid delusive conception or perception of subjective origin, causing change of mental character as compared with former self or normal ancestral type, through organic conditions originating in disease within the system, external motives playing but a secondary part when they influence at all the mental conduct. Change of character is the ultimate symptomatic expression of insanity, change

of mental conduct the immediate. The condition of mind is not voluntary; it is the product of disease. The most striking features of insanity in general, and the strongest proof of the presence of any of its forms, is the change for the worse that takes place in an individual's character and habits. Of course, when we have to deal with a congenital deficiency, the natural character itself being abnormal, this test does not apply. There is very often a true congenital moral deprivation with strong animal propensities, which makes a person practically insane from birth. In these cases there is no sense of shame or remorse. Psycho-sensory insanity occurs frequently in early life. The intellectual faculties appear unimpaired. Both males and females appear to perfectly perceive, and know, and judge. There is no delusion, yet they are insane, and as much need medical care and restraint as the worst form of mania. There is an entire perversion of the moral principle and there are no good or honest sentiments. They are actuated by their impulses and by the most depraved motives, but it is disease, not crime, that they are suffering from. Many such cases from being refined and virtuous become coarse, depraved, licentious, dishonest and reckless. Some of them are incorrigible thieves; others exhibit morbid sexual perversion, manifested by love of the same sex, sometimes intense and pure, but more often intense and most impure. Sometimes we find masked epilepsy in these cases, destructive acts and gusts of passion taking the place of a well-marked fit. These are cases of *petit mal*, and are very dangerous. If such cases could be carefully studied, as they are not, as they rarely come under observation until they have committed some overt act, it would be found that a great many persons, perverse and capricious and depraved throughout their entire life, are really cases of psycho-sensory insanity.

In cases of morbid sexual perversions we sometimes find a true erotomania, characterized by excessive love for an object, a mental affection, in which amatory delusions rule the patient, as religious delusions rule in theomania. It is different from nymphomania and satyriasis, in that, in the latter affection the disease originates in the organs of reproduction, a constant stream of irritative impressions being sent practically without cessation to the brain. In erotomania the seat of the disease is in the brain itself. The two sometimes, however, co-exist, and patients will often pass far beyond the limits of propriety where we can find no trouble in the reproductive organs. I have in mind such a case at present, where, upon the advice of a celebrated gynecologist, the ovaries were removed and were found to be perfectly healthy, but the patient experienced no relief. After death, when the brain was examined, there was found an extensive area of what had been irritation and inflammation, followed by hardening of the most pronounced nature. In this case there had been many attacks of hystero-epilepsy. In erotomania there is depression of mind and body, emaciation, and, if a cure is not accomplised, the patient rapidly sinks and dies. We very often

find erotomania following a religious melancholia, and it occurs more frequently in females than in males.

There are many women with perverted sexual instincts and a psycho-sensory insanity who, at each menstrual epoch, become possessed with a strong homicidal impulse, and those nearest and dearest are often the ones to suffer death at their hands, or perhaps anyone who may at the time displease them. Revenge and other motives are not unfrequently mixed up in insanity with such symptoms. Usually, we think, there will be some decided evidence of heredity, or of a change in the feelings prior to the committal of the overt act, but there are many cases, we think, in which the act, and the act alone, may constitute sufficient evidence of the insanity of the homicide. There are often active organic influences of a morbid nature, which though not externally noticeable, may, when disturbed and disordered at the moment of action, impel the person toward crime. In these cases I think there is generally a *petit mal*, and this disease often weakens volition without any external mental symptoms. In doubtful cases it is very important to make the most searching inquiries as to whether epileptic seizures, however slight and transient, have been noticed. Sometimes a transient dizziness or pallor or a momentary mental blank is the only indication of the existence of a masked epilepsy, and very frequently patients are only under the influence of destructive impulses when such an attack is threatened, and an overt act often takes the place of a fit in such persons.

I have a patient under medical observation and treatment at the present time who is highly educated, refined, and virtuous, and apparently normal in every respect, with not a trace of a delusion, and who is even morbidly sensitive as regards right and wrong; who suffers from epileptic vertigo, which generally comes on either before or after the menstrual epoch, and sometimes during the epoch; who has had strong compulsions of disease toward crime in the form of suicide, and who has been tortured by the thought that she might some day give way to it. It passes away almost immediately, and she is cheerful and sunshiny in the intervals between the paroxysms, and is a devoted wife and daughter. It must be a very simple thing for a homicidal to take the place of the suicidal impulse, and, if she should ever in the future give way to such an impulse, the public and her friends would be greatly astonished, and perhaps refuse to beleive her irresponsible for it, as they have never seen any indication of mental mischief. Every physician, however, can see that the question here should be, not could she distinguish between right and wrong at the time of the commission of the overt act, but, could she help it? Could she avoid the compulsion of disease toward crime? Was the act the outcome and product of the epilepsy? No act which is the product of disease of the body affecting the mind by deranging its functions and causing a suspension or impairment of the healthy intellect, the emotions, or the will, can be construed into a crime, and physicians should always voice this in the court-room when they have to give their

professional opinion. It is time that the laws should be amended to keep pace with medical science, and the absurd right and wrong test of insanity, which is no test at all, as every progressive physician knows, should be relegated to the dark ages where it properly belongs. Two-thirds of the insane know the difference between right and wrong as well as the sane do, but there is the absence of self-control produced by disease of the brain. Shall we strangle sick people to death in obedience to traditional dogma? It is time for the medical profession to come to the front and voice science in this matter. A scientific truth is never a dangerous doctrine, and we are bound to go where science leads us if we are true followers of the noble profession of medicine.

There are, unquestionably, instinctive monomanias, free from all complications. Associated with pathological sexual perversions we find the abnormal mental ideas, born of insanity, tyrannizing over the patient's thoughts and acts, and a psycho-sensory insanity,—an insanity of conduct, feeling, or impulse, or all combined, without such appreciable intellectual derangement that it would be recognized as insanity without the display of morbid feeling, impulse or conduct.

The great diagnostic mark in these cases is the predominance and overshadowing and overmastering character of the aberration of the moral faculties over the faculties of the understanding. It is seen in action and conduct rather than in words. There are morbid changes in the appetites, propensities and feelings. These cases are less understood and studied than other victims of mental disease because, as we have said, they are rarely brought into notice until an overt act is committed by such a person. Imperative conceptions and morbid impulsions are very characteristic of this class of cases. The morbid mental condition of these cases of psycho-sensory insanity is a basis fact in psychiatric symptomatology which cannot be reasoned away. Delusion is comparatively exceptional, while perverted feeling and conduct is never absent. The wishes, inclinations, attachments, likings and dislikings, are morbidly changed, and this change appears to be the origin or to lie at the very foundation of any disturbance which the understanding itself may seem to have sustained, and even in many instances to form throughout the sole manifestation of the disease of pyscho-sensory insanity. In one instance I have known of this morbid sexual love for a person of the same sex, starting, probably, with some one girl, of a faulty nervous organization, in a young ladies' seminary,—almost assumed the form of an epidemic (genesic erethism),—and several young ladies were brought up before the faculty, and were told that summary dismissal would follow if this were not at once dropped. The terrible mischief which was thus arrested, and doubtless originated with an insane girl, in this case evidently assumed an hysterical tendency in others not insane, but who might have easily become so if they were neuropathically endowed, as they doubtless were. Sometimes, in cases of masturbation, perverted sexual feelings, such as forming morbid attachments for persons of the same sex are quite marked. Dementia and death is generally the end

of these cases, unless the general health is improved and the weakened will-power strengthened. A nervous temperament, stimulating diet, improper associations and training, obscene literature, an arrested cerebral development, partial phymosis with hyperæsthesia of the glans penis, are some of the most frequent causes of this sexual vice. Masturbation is an exciting cause of insanity; the general health of insane masturbators is always impaired; the diagnosis may be difficult at first, but is easy after the first stage; the prognosis is very unfavorable unless the practice is stopped; daily exercise to the point of fatigue is essential to treatment, and tinct. gentian comp. seems to be the most valuable tonic to employ, with a nutritious diet, but no stimulants,—tobacco or coffee,—and work of some kind is a necessity for these patients. It may be noticed that a genesic erethism may reign as an epidemic at times. It did so in antiquity, in the Middle Ages, and in modern times. Julius Cæsar, Augustus, Tiberius, Caligula, Claudius, Nero, Galba, Otto, Vitellius, Titus, Domitian, Eliogabulus, Trajan, Adrian and Commodus, were given over to ferocious and brutal sensuality, which was due to their hereditary organization. Likewise Agrippina, Messalina, Poppæa, Domitzia, Sœmis, the two Faustinæ, Crispina, Titiana, the two Juliæ, Noua, Celsia and Lucillæ, Roman empresses, all corrupt women, with aberrations of the genital sense.

In the Middle Ages there was the belief in demons transformed into men for the service of women, and demons transformed into women for the service of men. There were neuropathic epidemics of every sort. Maria of Aragon, Joanna of Naples, Sextus IV., Julius III., Francis I. Henry III., Henry IV., and Louis XIV., all showed morbid sexual perversions. In modern times we find the same thing during the regency and reign of Louis XV., commencing with Philip of Orleans. The Princess Elizabeth, daughter of the Regent, Queen of Spain, the Count de Charlais and the Marquis de Sode, all abandoned themselves to abnormal sexual perversions and scandals. Some of these cases probably belonged to atavism and some to pathology. Diseases of the genital organs may produce masturbation, nymphomania and satyriasis, but in general pathological sexual perversions we think the brain and nervous system primitively and principally affected, and these psychical disorders are sometimes incurable. Heredity is a strong cause, and there is a correlation of morbific force in disease which may give us a transformation in heredity. Whether the median lobe of the cerebellum is at fault in these cases as has been asserted by Valentine, Wagner, Susanna, and others, I do not pretend to say, and I do not think we know. We find in the insanities in which the sexual functions are concerned intellectual anomalies, insanity of puberty, post-connubial insanity, insanity connected with the menstrual period, with the menopause, erotomania, nymphomania, satyriasis, the psycho-sensory insanity with pathological sexual perversions, and finally, violation of rape.

There are certainly pathological perversions of the sexual sense in which these passions assume a morbid character and give rise to a true

partial delirium, limited to the genital sense and sparing the integrity of the other faculties of the mind. Menstrual disturbances are a fruitful cause of psychical abnormalities and also ovarian affections. Many homicides and suicides owe their origin to erotic conditions and erotic delirium, while nymphomania transforms the most modest woman into the most degraded one. I believe that, in all cases of pathological sexual perversion, science could, if it had the opportunity, detect profound alterations in the brain or in other parts of the human body. It is very important to ascertain in all these cases, if possible, if there has been freedom of the will or whether disease has produced a compulsion toward crime which the will was powerless to restrain, and I think it very possible to do this. We certainly find apparently sound reasoning power with the most profound pathological sexual perversions in many cases,—a true psycho-sensory insanity, an insanity of conduct, feeling, or impulse, or all combined. When these insanities have a purely physical origin the prognosis is favorable; when the origin is psychical it is unfavorable, and where the origin is at once psychical and physical the case is almost incurable. If very careful search be made, I think it not uncommon to find slight disorders of the intellect, which would, however, attract no notice at all from those not skilled in psychiatry. It is very important to distinguish psychic atavism, which is the sudden return of the most remote psychic characteristics in men and women of the highest races, from cases of psychological aberration. That there is this regressive phenomenon of thought or feeling, or of both these momenta of nervous life, there is not the least question. It is not always easy to make a clear and precise distinction between a psycho-pathological phenomenon and an analogous one of regressive atavism; frequently it is very difficult, and in some rare cases it is impossible, the phenomena being identical in form, degree, result and permanence. The pathological phenomenon, much as it may resemble the atavic phenomenon, is essentially different from it. The criminal may be a sick man or a man in the most robust health, and his crime may belong either to pathology or regressive atavism. We may have a criminal monstrosity, a type of atavism and a psychic monstrosity showing repulsive acts of crime and moral degradation, but not a true criminal at all. The force of inertia may keep psychic phenomena from appearing for an indefinite time, but psychic atavism discloses them sooner or later. To lie concealed does not mean to be destroyed. Christian civilization has taught the cerebral moderating centers to hide the genital, the cruel and the filthy atavism, but this appears when these centers cease to act, or, the automatism of old and latent force succeeds in overcoming it. An insane man becomes a murderer (like his ancestors, when primary man lived, defending himself against animals and men, and hunting and fighting was his principal occupation) because atrophy or degeneration of the moderating centers annuls suddenly the whole progressive evolution of civilization; on the other hand, a sane man kills his fellow-man oppressed by an intense hatred, which, by its extraordinary power, silences the action of the

moderating nerve-cells. This example enables us to distinguish, in a measure, between atavism and pathology. The first of the two murderers being diseased in mind belongs to pathology, and is not responsible because there is loss of self-control produced by disease and his act is the product of disease. The second is perfectly healthy and belongs to normal psychology, and hence to man's tribunal, offering us a fact of psychic atavism. The close relation between cruelty and lust, which I have mentioned in some of the Roman emperors and empresses, also form part of the history of psychic atavism. Many sexual perversions have in them atavic influences, often very difficult to separate from the pathological element, but I think that this can generally be done by very careful investigation, and it is very important not to confuse atavism with pathology in medico-legal study and investigation.

Sexual influences, in connection with insanity and crime, are not sufficiently studied. In many of these cases there is a strong and sudden revulsion of feeling in which love and confidence are succeeded by the deadliest hate. There is more or less mental disturbance exhibited, not so much in the form of delusion as in that of paroxysmal fury and uncontrollable criminal impulse. In these cases there seems to be an entire abandonment of every interest and feeling not connected with the single purpose of revenge. The person gives herself up to justice, glories in the bloody deed, and is careless of the future. An overt act, not to be distinguished at first, perhaps, from the ordinary criminal deed, is often prompted more by these physiological movements characteristic of the female constitution than by well-considered motives, or strong, healthy feeling. With women it is but a step from extreme nervous susceptibility to downright hysteria and from that to overt insanity. In the sexual evolution, in pregnancy, in the parturient period, in lactation, strange thoughts, extraordinary feelings, unseasonable appetites and criminal impulses, may haunt a mind at other times innocent and pure. We must never ignore the presence of the sexual element in the phenomena displayed by this class of cases, as nervous erethism, excited even by courtship, has a controlling influence over the female will. The common reluctance to attribute insanity to this class of persons arises principally from the fact that they act from a rational motive,—revenge,—but this is not all incompatible with insanity, as the insane often act from rational motives, and premeditation and revenge are met with very frequently in the insane. We must also bear in mind that these cases are often persons of a naturally irritable and nervous temperament; a neuropathic constitution needing but a slight exciting cause to induce insanity.

The case of Alice Mitchell, in Memphis, Tenn., who killed her friend Freda Ward, also comes directly under this category of cases.

SELECTIONS.

CLINICAL NEUROLOGY.

THE CENTRAL ORIGIN OF MANY FORMS OF NEURALGIC PAINS.—Is the pain of the different forms of neuralgia really originated at the very spots at which the patients complain of it, or is it simply felt at those spots as though it arose there, in the same way, for instance, as patients who have undergone amputation of a limb, still complain of pain in the stump although the limb, which was the seat and sole cause of their suffering, has been removed?

The former hypothesis seems probable, *a priori*, and has given rise to the so-called peripheral theory of neuralgia; but a number of neuropathologists, and among them some very eminent men, defend what is known as the central theory of such suffering. Although there can be no doubt that the latter theory is not applicable to all cases, still it accounts for the greater number of them, and is based on arguments that are well fitted to carry conviction, and of which the principal ones are the following:

When a nerve has been completely severed, as is sometimes done in cases of neuralgia that defy all treatment, it is not uncommon to find the pain going on unchanged after the operation. It could not, therefore, have had a peripheral origin.

Just as no one disputes nowadays the existence of nutritive disorders in hysteria, in the same way no one can deny that in certain forms of neuralgia, without neuritis, the same kind of disorder may arise. Now, is not the most rational way of explaining these disorders that of granting the central theory of neuralgia. Under these circumstances it is easy to see that the morbid irritation extends from the original nucleus of the diseased nerve to the original nuclei of the neighboring nerves, which will manifest their implication by creating nutritive disorders *loco dolenti*.

In the third place, a number of diatheses, and certain altered conditions of the blood, give rise to neuralgic pains. Unless we admit that the spine is affected primarily,

how can we understand why these diatheses and modifications of the blood should affect one nerve more than another, and, in some cases, only a few centimeters, or even millimeters, of a given nerve?

Fourthly, it is known that neuralgic pains are connected very closely in different ways with hereditary neuroses. Now, the latter are undoubtedly localized in the nervous centers; how, therefore, could their effects be other than central?

The theory of the central seat of neuralgic pains explains most satisfactorily (and is the only theory that does so) the way in which such pains jump from one spot to another, alternate from one side to the other, and pass rapidly from this nerve to the next. We know how near to each other in the spinal cord are the original threads of the different nerves, and can consequently understand with readiness how the painful irritation of one nerve can extend with the greatest ease to its neighbor in the spinal cord.

After all, the daily practice of medicine supplies the central theory of neuralgic pains with a decisive argument. It is a matter of common occurrence that cases of neuralgia of the trigeminal, sciatic, or superficial nerves, that have stubbornly resisted the action of the various local anæsthetics and different forms of counter-irritation, disappear as if by magic after only a few days' use of bromidia. This extraordinary result is readily explained by the well-known physiological effects of the active elements of bromidia. Purified brom. potass. and chloral, cannabis indica, and hyoscyamus; for it must be remembered that they act on the cerebro-spinal centers. Therefore, in the great majority of cases, at any rate, neuralgic pains have a central origin, and in this way is once more verified the truth of the old Hippocratic axiom, "*Naturam morborum ostendunt curationes*," by the use of a preparation that is now so well known as to no longer require any praise—bromidia.—*Bulletin General de Therapeutique*, Paris, Feb. 28th, 1893.

Lewin on Nicotinism.—(*Internationale Klinische Rundschau*, No. 42). The functional disturbances caused by the excessive use of tobacco, have been fully studied in appreciation of their social importance. The deleterious influence of tobacco may be observed after its use in any form; smoking, chewing, snuffing. Typical nicotinism

occurs, as a rule, after long continued abuse of tobacco, sometimes not until after twenty years and more. The human organism is capable of a certain degree of accommodation to the tobacco poison, but it can never be perfectly immunized—no period of tolerance is long enough to exclude the final appearance of intoxication. It is correct that many smokers reach old age, but it is probably equally true that many people do not live to old age because they are smokers.

The disturbances of nicotinism may be observed in almost all organs of the body. On the skin we see itching and erythema; the nerves of taste are blunted; in the throat an *angina granulosa* develops; leukoplakia is probably a consequence of the abuse of tobacco, loss of appetite, fullness and pain in the epigastrium are quite common, as is matutinal vomiting and disturbed function of the intestine; the secretion of urine is usually increased; in smoking women disturbances of menstruation are the rule; in female cigarmakers abortion appears to be frequent; diminished sexual appetite and power, even impotency, have been observed.

The most frequent pathological effect of nicotine is a disturbance of the action of the heart, palpitations, rapid heart-beat, intermissions, præcordial anxiety, weakness, fainting spells and collapse. Sclerosis of the coronary arteries, hypertrophy of the left ventricle, perhaps myocarditis and fatty degeneration of the heart seems to be favored by the abuse of tobacco. The smoking of cigars, and more so of cigarettes, produces an irritation of the nasal mucous membrane (the so-called vasomotor catarrh) and diminishes olfactory sensibility. There usually is chronic hyperæmia of the epiglottis and larynx, sometimes even of the trachea and bronchi.

The use of tobacco in any form may produce disturbances of the sight. This may be favored by general debility, excessive heat, mental overwork, etc. The most common form of optic disturbance is bilateral nicotine amblyopia. There usually is a central disturbance of the field of vision, a central horizontal elliptic scotoma for red and green, sometimes also for blue, in a lesser degree, the external limits of the field of vision are normal, as a rule.

In the auditory organ a swelling of the tubes and congestion of the tympanum is often observed in higher degrees of nicotinism; also paresis of the auditory nerves

or the disturbances consequent upon this, such as noises in the ears, etc.

The functions of the central nervous system may be affected too. It has been observed that in higher schools the non-smokers get along better than the smokers, and that children from nine to fifteen years that were addicted to smoking, showed diminished intelligence, laziness and a craving for spirits. Adult persons given to excess in smoking often complain of cephalic pressure, sleeplessness, in some cases sleepiness, melancholic disposition, aversions to labor and *dizziness*. The latter is most disagreeable; the patient has a peculiar sensation of emptiness, is afraid of losing consciousness, is unable to concentrate his attention, in spite of all efforts; his movements get incoherent, and everything seems to be in motion. In those smoking excessively there have also been observed symptoms of ataxia, paretic weakness of the sphincters, trembling and spasms.

The nicotine-psychoses that have lately been reported, are said to rarely affect smokers and to be more common in those that snuff, and most so in chewers. The prodromal stage, which lasts about three months, shows general uneasiness, restlessness, anxiety, sleeplessness, depression of the mind, often of a religious character; after this follows præcordial anxiety, and finally the psychoses proper, consisting of three stages: 1, hallucinations of all senses, tendency to suicide, depression of spirits, attacks of fright with a tendency to violent acts, sleeplessness; 2, exhilaration, slight maniacal exaltation, agreeable hallucinations; after from two or four weeks' relaxation, again followed by a maniacal condition. 3, The intervals between exaltation and depression get shorter, the patient becomes irritable, but otherwise does not pay much attention to his surroundings; perception and attention are diminished.

It is claimed that the patient is curable in five or six months if he stops the use of tobacco during the first stage; if he does so during the second stage, he may be cured in a year or so; after the third stage is reached, the disease seems to be incurable.

Of therapeutic measures against nicotinism, withdrawal of the tobacco is the most important. Iodide of potassium, laxatives, warm baths, are said to hasten the elimination of the poison that accumulated in the system. Against the dizziness, subcutaneous injections of ether have

been recommended; against the disturbances of hearing, pilocarpin; against the amblyopia, strychnine, hyoscyamus, bin-iodide of mercury, pilocarpin, etc.

SULFONAL.—Prof. Kast (*Arch. f. exp. Path. u. Pharm.*, 51, I.), from a study of the published cases in which poisonous effects have followed the use of Sulfonal for a prolonged period, gives the following as characteristics of the condition of chronic poisoning by the drug: (1,) Disturbances of digestion, as vomiting, diarrhea, or constipation; (2,) Of the nervous system, as ataxy and feebleness of the limbs, ptosis, and ascending paralysis; (3,) Ischuria, oliguria, sometimes albuminuria, or the presence of hæmatoporphyrin. These are the chief signs. Kast is of the opinion that a cumulative action of the drug produces, instead of a transitory diminution of the nervous excitability, a permanent depression thereof, just similar to that caused by a single large dose. He finds that the dose best calculated to produce a hypnotic effect is about thirty grains for a man and half the quantity for a woman. These quantities should be the maximal daily doses. He advises also that an interruption should be made from time to time in the use of the drug, so as to ensure its elimination. Loss of appetite, vomiting, or pains in the stomach he regards as indications for the immediate discontinuance of the remedy.—*British Medical Journal*, Feb. 11, '93.

CHLORIDE OF GOLD AND SODIUM IN PROGRESSIVE PARALYSIS.—Boubila, Hadjès and Cossa (*Annales Médico-Psychologiques*, 1893, Jan.–April) are not inclined to believe that syphilis is the prevalent cause of progressive paralysis. The statistical proof does not appear to be binding to them, and their efforts to influence the course of the disease by the administration of iodide of potassium and bichloride of mercury, although continued and carefully watched for five years, have given negative results. They then made up their minds to try another remedy of anti-syphilitic properties, the chloride of gold and sodium, much recommeded by Chrétien of Montpelier. They have tried the remedy in twenty-one cases, four being in the initial stage, nine in an advanced stage, eight nearing the end. The patients were given two milligrams to begin with. After two weeks the dose was increased by the same amount, and this was done

until one centigram was reached. Then nothing was given for a month, after which the whole process was repeated.

In the first four cases a remission was observed every time, accompanied by a considerable increase in weight and muscular power. Out of the nine cases of the second group, two showed an improvement of the psychical condition, four an increase of weight, and two an increase of muscular power.

The patients of the third group showed no change of the psychical condition, but in some of them there was an increase of weight and strength.

In all cases that showed an improvement of nutrition there was an increase of the number of blood corpuscles.

The observers draw the following conclusions from their cases:

The chloride of gold and sodium is efficient in the first stage of progressive paralysis, being able to induce marked remissions; it is useful in the second stage, increasing the power of resistance; it is also of some use in the terminal stage, postponing the unavoidable *exitus letalis*.

NEUROPHYSIOLOGY.

An Experiment in a New-Born Child in Regard to the Location of the Respiratory Center (*Wien Klin. Woch.*, No. 50, 1891), by Professor Kehrn.—After evisceration in a child of a primipara, the brain was broken up and partly washed out, partly pressed out by the pulling of the head through the narrow opening. Contrary to expectation the child breathed after being delivered. For a quarter of an hour it took deep, regular inspirations, six to the minute. The hand and foot reflexes were present, but no spontaneous movements of extremities. On looking into the cranial cavity it was seen that all the cerebrum and most of the cerebellum was gone. Only portions of the peduncles of the cerebellum and the pons remained, but the medulla remained intact. The medulla was cut across one centimeter above the point of the calamus scriptorius. No change occurred in respiration or reflexes. On another section being made one centimeter deeper, just at the lower end of the calamus, both respiration and reflexes ceased.

In the portion of the medulla isolated by the two sections there was contained neither the classical centers of respiration nor the roots of the important sensitive and motor nerves which have to do with respiration. One must therefore conclude that the respiratory centers lie in the same places in man as in the other mammalia which have up to the present time been used for experimentation.—*Am. Pract. and News.*

Exhaustion of Nerve Cells.—Hodges has produced artificial electrical exhaustion of ganglia of animals and has observed the effect of normal fatigue. In fatigue the nucleus of a nerve cell decreases its size and symmetry, the protoplasm of the spinal ganglia cell becomes shrunken and vacuolated. In the cerebral and cerebellar cortex the shrinking is even more marked. The cell protoplasm stains. Rest restores the normal structure and appearance of the cell.—*Vide* the *Journal of Morphology.*

NEUROTHERAPY.

Hypodermic use of Arsenic.—Dr. H. N. Moyer, in a paper read before the Neurological Section of the A. M. A. (*The Medical Standard*), on the Hypodermic use of Arsenic, said that arsenic was of high repute in chronic neuroses, but that better results were obtained when given hypodermically, and that it should be given in much larger doses than usually prescribed.

He uses the pure anhydrous sodium arseniate, obtained by driving off the water of crystallization from the salt as ordinarily found in the shops, by heating to 300°, which results in a non-irritating salt of definite composition. A 1 to 100 solution of this salt contains 53 per cent. of the arsenic found in Fowler's solution, the dose of which, approximately, would be about twice that of liquor potassii arseniatis.

Dr. Moyer uses from six minims of a one per cent. solution to fifteen minims of a five per cent., from which he obtains satisfactory results, especially in chorea.

For Myxœdema.—The different methods of employing the thyroid juice in this affection are shown in the following extract from the *Universal Medical Journal:* One-eighth of a thyroid gland, in powder, given two to seven times a week in lukewarm beef-tea.—(Arthur Davies.)

One-half to one thyroid gland daily, eaten raw.—(Pasteur.) One-half a thyroid gland, three times a week, fried sufficiently to make it palatable.—(Calvert.) Equal parts of thyroid juice and glycerine, and a five per cent. aq. sol. of ac. carbolic. (3iss—6 grms., equal to one sheep's thyroid.) Give *m*x–xv (0.66–1.00 grm.) hypod.; or four times as much by mouth.—(Murray.)—*Lancet*, Feb. 4, 1893.

Pichi (*Fabiana imbricata*).—This drug has been proved a valuable remedy in general vesical and genito-urinary troubles.

Parke, Davis & Co., the pioneer pharmacists with so many remedies, make of this preparation the fluid extract, the solid extract, the powdered extract and filled soluble elastic capsules.

The habitat of this drug is South America.

It is diuretic, tonic, terebinthinate. It calms irritability and quickly modifies the urinary secretions in gravel and uric acid diathesis.

Itch of Cerebral Origin.—Dr. L. Bremer ("Rev. of Insanity and Nerv. Dis."), arguing from Edinger's case of paralysis of the right arm and leg, accompanied by athetosis and by excruciating pain at all times, in whom was found a softened spot in the external nucleus of the left thalamus opticus, urges the theory that there may be pain of central origin. How else can be explained the pain of the hypochondriac or the hysterical, or that of hypnotic suggestion? The epileptic aura, which may be an itching instead of a pain, "is a projection of a cortical irritation on a corresponding area of the skin." Certain persons cannot hear vermin spoken of without being afflicted with a sensation of itching. This "is brought about by an association process in the hemispheres." He has often seen pruritus accompany melancholia, and reports two cases in which it preceded the mental trouble. The pruritus that is so frequently met with in hysteria and neurasthenia is, undoubtedly, a brain itch, and not a peripheral one. He denounces the custom of gynecologists of treating pruritus about the vaginal orifice in neurasthenic women. For treatment he combines bromide (10 to 12 grains) and cannabis ind. ext. (¼ gr.), three times daily. He advocates a warm bath, with a handful of wash soda and a half-pound of starch in an ordinary bathtubful of warm water.

This simple measure has given better satisfaction than any other in institution treatment when such cases are notoriously often a source of despair to the physician and patient. Even in strictly central itch it generally acts well.—*Medical Standard.*

FORENSIC PSYCHIATRY.

Removal of the Ovaries of the Insane.—The medical staff of an asylum in Pennsylvania, says the *Medical Record*, became much impressed with the therapeutic value of this operation, and operated accordingly. The fifth patient died; and the Lunacy Committee of the State Board took up the matter and made a report, condemning the practice, and containing the opinion of a legal member of the Board, who says that he believes that the operation of oöphorectomy upon insane women, as recently practiced and as proposed to be practiced in one of the State hospitals for the insane, unless necessary to save life, is not only illegal, but, in view of its experimental character, it is brutal and inhuman, and not excusable on any reasonable ground. To quote a learned medical opinion: "To operate on organs not diseased for the relief of undefinable symptoms, hysterical symptoms, and epileptic symptoms, is unwarranted. A lunatic cannot give a legal consent to the performance of an experimental operation. Nor can her relatives legally give such a consent in her behalf, and therefore a surgeon practicing oöphorectomy upon an insane woman, unless to save life, takes a great risk. He may take the risk of a criminal prosecution. It is regarded by the best medical authorities as a useless and improper expedient for the cure or relief of insanity; and the operation of oöphorectomy in a public hospital upon indigent insane women must be regarded as largely experimental, and for that reason is bound to reflect upon hospital authorities now boasting of their modern humane methods of treatment."

Menstruation.—The importance of menstruation from the medico-legal stand-point is shown by Krafft-Ebing in the *Jahrbücher f. Psychiatrie*, X, 2 and 3. Psychopathic phenomena of all degrees are rather common in connection with menstruation. From a large number of forensic

cases, including one of a woman that murdered her husband during the menstrual period, Krafft-Ebing draws the following conclusions:

1. The mental integrity of a menstruating woman is forensically doubtful.

2. It is necessary to find out in female criminals if the crime was committed during menstruation, this expression not only including the days of uterine sanguineous discharge, but also the days immediately preceding and following it.

3. If a coincidence of the crime and the period is made out, a complete *exploratio mentalis* is advisable; it is absolutely necessary if there are any indications of hereditary predisposition, or of psychopathic manifestations during former periods of menstruation.

4. Since it is beyond doubt that menstruation has a powerful influence on the mind, an allowance should be made for it even in those cases where no direct menstrual alienation has been observed.

5. Imbeciles that have committed a criminal act during menstruation should, as a rule, not be held responsible, certainly not if the act was committed under the influence of mental emotion.

6. Individuals that have been released on account of temporary menstrual alienation, are to be considered as highly dangerous and require careful watching during their menstrual periods.

NEUROPATHOLOGY.

Compression of the Brain.—At the seventh meeting of the French Congress of Surgery, reported in the *Mercredi médical* for April 5th, Dr. Van Stockum presented an experimental study of what may be called the mechanism of the condition known as compression of the brain. His conclusions were as follows: The general symptoms are not caused by increased tension of the cerebro-spinal fluid; they depend on disordered circulation in the medulla oblongata, not due to a mechanical cause, but having their point of departure in the cerebral cortex. The cortex, irritated and rendered anæmic by the foreign body that is compressing it, sets up an embarrassment of the cerebral circulation by virtue of containing a vasomotor center acting specially upon the brain.—*N. Y. Med. Jour.*

EDITORIALS.

[*All Unsigned Editorials are written by the Editor.*]

Ernest Hart, born in June, 1836, educated at the City of London School, where he became Captain and Lambert Jones scholar at a very early age, subsequently he entered St. George's Hospital School of Medicine, where he attained first prizeman in every class.

At twenty-eight, he became Ophthalmic Surgeon to St. Mary's Hospital School, holding that post for ten years, publishing from time to time papers on Ophthalmic subjects, and contributing to the *Moorfield's Hospital Ophthalmic Reports* a paper "On the Minute Anatomy of the Nerves and Iris, and the Ciliary Body," in which, for the first time, the ganglionic network of the nerves, which lies upon the iris, was described and figured. He introduced into Ophthalmic practice medicated gelatine discs.

Mr. Hart projected a Commission of Inquiry into the London Workhouse Infirmaries and the treatment of the sick poor, reporting on the subject in conjunction with Mr. Anstie and Dr. Carr. In those days as then appeared, no special arrangements were made for those dangerously ill, who were entrusted to the tender mercies of the pauper nurses altogether incompetent, whose remuneration for their work was an extra allowance of beer. The result was that a meeting, called at Willis' Rooms, formed a deputation, headed by Mr. Hart, to the Government; the Duke of Westminster, the Archbishop of York, Mr. Maurice, Mr. Hughes, and Dr. Anstie, joined a committee which met weekly at his house. A bill was drafted and subsequently Mr. Hardy's Act was passed embodying their chief proposals and constituting the Metropolitan Asylum Board, which has charge of the hospitals for sick poor, where they may be properly tended and cared for. The Duke and his friends instituted a public subscription for a testimonial to Mr. Hart, and some hundreds of pounds were speedily collected, but Mr. Hart expressed a wish that the matter be dropped.

Another good work which Mr. Hart successfully prosecuted was his exposure of the iniquities of Baby Farming

and other kindred evils. And as a result, the Infant Life Protection Act, which he assisted to draft, became law.

Mr. Hart has long been an active member, as well as chairman, of the Parliamentary Bills Committee of the British Medical Association, and in that capacity, has done much valuable work. In 1864, when the Government introduced a Bill to enable the Secretary of State for India to dispense with competitive examinations and to substitute for them a system of patronage in the Indian Medical Service, the Association properly regarded the proposal as derogatory to the honor and interest of the profession, and Mr. Hart led the opposition to it. Mr. Pope Hennessey, M. P., who took strong ground upon the question, read in the House of Commons a memorandum with which Mr. Hart had furnished him, and the Bill was defeated upon the third reading.

In the year of 1866 Mr. Hart was appointed, by the Council of the British Medical Association, to the editorship of the *British Medical Journal*, an office he still holds, along with the editorship of the *London Medical Record* and the *Sanitary Record*. When he took up the editorship of the *British Medical Journal* it was not a lucrative adjunct of the Association; now its profits amount to £6,000 per annum, while the number of members of the Association has increased from 2,000 to more than 13,000.

From that time forward Mr. Hart has led a busy life, not only in his editorial work, but in promoting in many ways the welfare of the medical profession. Having, in 1867, been apprised that the Lords of the Admirality proposed to establish a system of bounties to needy medical students in the schools—granting, to those who would bind themselves for ten years' naval service, a free bounty of £100 in their fourth year at school—he forthwith organized an opposition to the scheme, which was universally considered derogatory to the honor of the profession, and calculated to interfere with its independence; and the official minute and circular were withdrawn in consequence. Again, in 1874, Mr. Hart, as Chairman of the Parliamentary Bills Committee of the British Medical Association, prepared a statement, which he submitted to the First Lord of the Admirality, drawing attention to the medical service of the Royal Navy, and making proposals for the removal of certain grievances.

It happened that the Admiralty had the subject under consideration at the time; and, in the next year, several concessions which the Committee had suggested as to rank, pay, and retirement were made.

We find that Mr. Hart has not been less energetic to the Army Medical Service, for which he has procured several concessions. About the year 1872 the War Office proposed to make changes much to the advantage of militia surgeons, which the Parliamentary Bills Committee stoutly opposed, and the Army Warrant of 1873, chiefly owing to his instances, was so modified as to restore to the Medical Officers of the Army certain privileges of which they had been deprived. At that time the Army Medical Department was unpopular with the profession, and Mr. Hart, as Chairman of the Committee, therefore presented various reports to the War Office, and was instrumental in drawing attention to the requirements of the Service in the matter of pay, retirement and relative rank. A complete scheme for the reorganization of the Service was published in the *British Medical Journal*, of January 1st, 1879. Ultimately, early in the year 1880, a new Army Medical Warrant was issued, embodying the chief points recommended by the Committee, and greatly improving the emoluments of Army Surgeons, and it had the effect of increasing the number of candidates for the Army Medical Service. Later in the same year Mr. Hart was concerned in the representation to the Government as to the grievances of the Medical Officers of the Indian Army Service, which was acknowledged to have been successful and valuable.

Following up this result Mr. Hart at once set afoot inquiries as to the causes of the extreme unpopularity of the Naval Medical Service, and a scheme which he prepared for its amelioration—wherein, amongst other things, he proposes that the pay of naval candidates at Netley should be equalized with that of candidates of the Army—was presented to the Lords of the Admiralty, who issued a new Medical Navy Warrant generally embodying its proposals. "The warrant," said the *British Medical Journal*, "is in a large measure the issue of our own efforts for the good of the Service, and is based upon the memorandum of claims drawn up by Mr. Hart, and submitted by him at official request to the First Lord of the Admiralty by whom it was referred to a Departmental Committee."

Mr. Hart, in 1876, was mainly concerned in organizing an association for establishing coffee taverns in London, which should be self-supporting, the object being to check intemperance. He likewise assisted in forming centers for cheap musical entertainments in poor districts, the Popular Ballad Committee being formed, and the Victoria Theater being formed into a coffee tavern and temperance music hall. Popular concerts are now given in various parts of London, and the Ballad Committee is engaged in training men and women in vocal and instrumental music. Again, Mr. Hart sought to improve the condition of London by organizing the Smoke Abatement Movement, and it was chiefly due to him that the Smoke Abatement Exhibition was held in 1882, from which many practical benefits have followed. He is now Chairman of Council of the Smoke Abatement Institute. He has also been greatly concerned in the good work of the National Health Society and of the Metropolitan Public Garden and Boulevard Association, of which he is Vice-Chairman. Of the International Health Exhibition of 1885 he was the projector, and an active member of the Executive Committee.

In building up the great organization of the British Medical Association, Mr. Hart has had a large share, and, by its means, he has been enabled to do much good work, as has already been seen. From his demonstrations of the truths about vaccination, and his organization of the London Conference on Animal Vaccination, great public good has followed, and we are now provided at his suggestion with a State institution for vaccination direct from the calf. He has also done good service by organizing a scheme of scientific sanitation of the milk supply of the Metropolis. He has held the office of President of the Harveian and Quekett Microscopical Societies.

In professional questions generally Mr. Hart has always taken the side of the "rank and file." He led the movement for restoring to the medical profession the "Lost School at Oxford," with its rich endowments. He did much to obtain direct representation of the profession in the General Medicine Council, and was nominated but declined to serve, as a representative on that body. He has from the first warmly supported the claims of women to medical practice and has supplied the funds for two scholarships at the Medical School for Women.

In April, 1893, a meeting was held at Grosvenor House, by the permission of the Duke of Westminster, at which five hundred gentlemen assembled to take part in the presentation to Mrs. Ernest Hart of a portrait of her husband. The Duke of Westminster was to have presided, but being suddenly summoned to the House of Lords, his place was filled by Mr. (now Sir Spencer) Wells, then President of the Royal College of Surgeons. Amongst the speakers were Sir Henry Thompson, Sir. F. Pollock, Sir T. W. Charley, Dr. Cameron, M. P., Dr. Farquharson, M. P., Dr. Quain and others. The address was an epitome of Mr. Hart's life-labors. The portrait was painted by Mr. Frank Holl, R. A., and is admitted by all who have seen it to be an admirable work of art, faithfully conveying the dark, keen, intelligent, well-cut features of the subject, and his small, wiry frame.

In 1884, Mr. Hart began seriously to study the question of founding a society which should afford to medical men the means of providing for their families in the event of sickness and disablement in practice, as well as of death. The medical profession has several charitable societies to relieve the sufferings and alleviate the calamities of disastrous sickness or failure, but, although more than one effort had been made, it had hitherto been found impossible to provide an annuity and sickness fund such as those which the Friendly Societies supply for the working classes. The society established many years ago for this purpose had not met with any success and was quickly dissolved. After studying all the conditions, and obtaining preliminary replies to a circular which was extensively issued with a view of ascertaining a basis of vital statistics for the medical profession, Dr. Hart called a meeting of the profession at the annual gathering of the British Medical Association at Liverpool, and explained his proposed method of proceeding, and the organization which he had planned. These proposals were unanimously accepted by the meeting, and the society was founded under his presidency, Sir T. Spencer Wells, Dr. W. M. Ord, and Dr. J. R. Upton acting with him as first trustees, and the executive and general committees being nominated. This society has since greatly prospered, so that at the present moment—three years and a half after its foundation—it has nine hundred members. It has accumulated reserve funds amounting to £20,000, and is paying £40 per week in sick pay to members temporarily

or permanently disabled. The basis of success has been secured mainly by great economy in management, and by relying fully upon the principle of mutual association without payments to directors, or payment of commissions to agents. The working expenses of the Society do not amount to more than five per cent. of its premium income. This is the first society of the kind which has ever been successfully established among the professional classes.

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Our "New St. Louis."—*The Medical Fortnightly* has taken the pains to abstract the following, which we take pleasure in placing before our readers, as some of the progressive features of St. Louis:

With the completion of our three new depots, our City Hall, million-dollar hotel and half-a-dozen hotels of lesser magnitude, the new (third) bridge, the City Hospital, the million-dollar Barnes Hospital, the Union Trust Company and other big buildings in process of erection, the direct

connection of the Missouri, Kansas and Texas, the Burlington and other railroads with the city, the remodeling of the Merchants' Exchange, the perfection of the boulevard system and system of street rapid-transit (the latter already the finest in the world), the universal abatement of the smoke nuisance, the completion of the new water works, with a thousand other improvements now under way, we can afford to adopt a degree of self-esteem that approaches even that of the average Chicago citizen.

In this connection it may not be out of place to notice the amount of attention our Eastern friends have given to the New St. Louis lately. In the last several months she has been the subject of illustrated sketches and dissertations by Charles Dudley Warner, in Frank Leslie's *Weekly*, the *Cosmopolitan*, the *New England Monthly Magazine* and several other eastern publications. Mr. Julian Ralph, whose writings are familiar to *litterateur* of the present day, grows enthusiastic even in conservative old *Harper's Monthly*, and tells of the marvelous development of the Future Great City of the West. Mr. Ralph says:

It startled the English-speaking world to learn that Chicago had reached the million mark, but to-day we foresee that in a few years—perhaps the next census will record it—St. Louis is to share the honor with her. No other Western city has such a start in the race. It is true, if the signs are to be trusted, that the twin cities of Minneapolis and St. Paul may then have a joint population of a million, but St. Louis is the commercial rival of all three of her great northern neighbors, and is drawing trade which they were seeking, while the Twins are separate cities. The only millionaire towns, so to speak, will be Chicago and St. Louis. St. Louis is already the fifth in size among the cities of the land, and would be fourth if Brooklyn were rated what she is in fact—a bedchamber of New York. But it is the new growth of St. Louis, her restart in life, that is more significant and interesting; it began so recently and is gathering momentum so fast. And we shall see that never was a city's growth more firmly rooted or more genuine. What is accomplished there is performed without trumpeting or bluster, by natural causes and with the advantages of conservatism and great wealth. More remarkable yet and still more admirable, the new growth of the city is superimposed upon an old foundation. It is an age, as this world goes, since this proud city could be called new and crude. The greater St. Louis of the near future will be a fine, dignified, solid city, with a firmly established and polished society, cultivated tastes, and the monuments, ornaments and atmosphere of an old capital.

After praising the exposition and various other enterprises of a similar nature, the outcome of St. Louis' energies, and dwelling on the powers and influence wielded on the commerce of the West by the Merchants' Exchange, he further says:

St. Louis is the one large Western city in which a man from our Eastern cities would feel at once at home. It seems to require no more explanation than Boston would to a New Yorker, or Baltimore to a Bostonian. It speaks for itself in a familiar language of street scenes, architecture and the faces and manners of the people. In saying this I make no comparison that is unfavorable to other Western cities, for it is not unfriendly to say that their most striking characteristic is their newness, or that this is lacking in St. Louis. And yet to-day St. Louis is new-born, and her appearance of age and of similarity to the Eastern cities belies her. She is not in the least what she looks. Ten or a dozen years ago there began the operation of influences which were to rejuvenate her, and fill her old veins with new blood, to give her the momentum of the most vigorous Western enterprise. Six or seven years

ago these began to bear fruit, and the new metropolitan spirit commenced to throb in the veins of the old city. The change is not like the awakening of Rip Van Winkle, for the city never slept; it is rather a repetition of the case of that boy god of mythology whose slender form grew sturdy when his brother was born. It was the new life around the old that spurred it to sudden growth.

The Treatment of Myxœdema.—Dr. Frank P. Foster, the accomplished editor of the *New York Medical Journal*, has deemed this subject of sufficient interest to devote several editorial columns to its consideration, a conclusion in which we heartily concur, and as the subject is handled with consummate neurological discernment, we deem it likewise appropriate to our pages. He says:

The *Edinburgh Medical Journal* for May contains a paper on the use, during the past two years, of thyreoid extract in myxœdema and allied conditions, by Dr. Robert A. Lundie. From 1878, when Dr. Ord made his original contribution to the subject of myxœdema, to 1891, there had been only palliative treatment brought to light in respect to that disease. A careful regard for the patient's personal hygiene, massage, a change of environment, or a milder climate has been known to benefit a few patients; others had improved slightly and transiently under the use of such drugs as jaborandi, nitroglycerine, arsenic and strychnine. In Dr. Ord's article on this disease, written for Quain's *Dictionary of Medicine* about ten years ago, that author stated that not much hope of improvement could be predicated of drugs. He said: "The progress of the disease is not readily affected by any remedy, and the prognosis is altogether unfavorable." Now, however, thanks to the plan of treatment instituted in 1891 by Dr. G. R. Murray, of Newcastle, England, and confirmed by others in the same year and in 1892, there are few abnormal conditions that are so certainly ameliorated by treatment. Dr. Murray's plan consisted in the subcutaneous injection of a sterilized extract of the thyreoid of the sheep. Two glands and a half were used in the first case, in the space of three months; afterwards he used a manufactured glycerine-extract in doses averaging twenty-five minims every two weeks. In later cases the same physician has used the extract in doses of from twelve to twenty-five minims weekly, also in daily doses of ten minims when they are taken by the mouth. In cases where thymus extract was used, the reported results were far from being satisfactory.

The subcutaneous method of treatment continued in vogue during the greater part of 1892, and was followed by most gratifying improvement in nearly every instance. Dr. Lundie presents a tabular statement of thirty-two cases thus treated during 1892, and of only two of these is it stated that no improvement occurred. As these two exceptional cases occurred in the practice of the same physician, there is room for a belief that the size of the dose or the method of procedure was at fault. Of the results that have been recorded as favorable we find a wide range in

regard to the extent of the improvement; one patient is recorded "practically cured," another "immensely improved," another, a maniac, "improved both physically and mentally," another "slightly improved." One patient recovered *pari passu* from myxœdema and from melancholia; and another patient having a severe nephritis improved decidedly in that respect as well as in the more serious malady. Dr. Byrom Bramwell has seen amenorrhea and albuminuria disappear quite early in the course of thyreoid feeding; but in cases of myxœdema occurring in elderly people, where the albumin is present in consequence of an associated cirrhosis of the kidney, the albuminuric symptom may not be expected to clear up in the same manner as in younger patients. One of Dr. Dunlop's cases, reported in the same journal that contains Dr. Lundie's paper, was remarkable as an example of myxœdema following a recovery from goitre, with atrophy of the thyreoid gland as a consequence of that recovery. This was a case of myxœdema having a more distinct organic origin than is ordinarily the case. It is true that there is wasting of the gland as the malady progresses, but it seems to be a feature of development rather than of origin, as in this instance. The recovery in this case was so marked that the reporter writes: "This case is a good example of the rapidity with which improvement takes place, all the symptoms having yielded to treatment in a couple of months.

The administration of thyreoid gland by the mouth was begun by three or more physicians, independently of one another, in different towns and countries nearly simultaneously, in the latter part of 1892. The gland was variously used—raw, cooked (parboiled or fried), extracted in glycerine, and in the form of a dry powdered extract. These methods of preparation have all been found about equally efficacious, except when too much heat has been applied in the process of cooking the gland; from which it seems probable that the physiological constituent of the gland that is potent against myxœdema is destroyed by heat.

The thyreoid of the sheep has generally been used, but that of other animals, such as kine, calves and swine, has also been used with good results. Care must be taken that the glands are in a healthy state, since it has been pointed out by Dr. Napier, in the *Lancet*, that not more than half the thyreoids of sheep are free from abnormal changes. The preparation known as Brady and Martin's extract was employed in eleven of the forty-six cases included in Dr. Lundie's tables, and also in five other cases not included in those tables, but reported in the same number of the *Edinburgh Medical Journal*. Solid extracts have been used by Dr. Arthur Davies, Dr. Vermehren and others. Mr. Edmund White, of St. Thomas's Hospital, has prepared a powder of thyreoid of which the dose is three grains, equivalent to one-eighth of a gland; and an enterprising London manufacturer has quite recently introduced tabloids of compressed dry gland-powder, each tabloid containing five grains of healthy sheep's thyreoid. It is stated that Mr. White's powder has been found efficient in several cases of myxœdema.

Deterioration or tendency to relapse is, as a rule, noted after a few weeks, if the thyreoid feeding is suspended; which is another way of saying that the treatment is not competent to remove the morbid tendency, but is efficient to counteract it artificially. And Dr. Lundie suggests that a smaller initial dosage may, in the future, be found to yield more permanent results at the expense of a brilliant initial improvement. In more than one case the ill effects of an overdose of extract were made promptly manifest in cardiac depression, pain in the head and other parts, nausea, or profuse perspiration. Two of Dr. Murray's patients died from cardiac syncope; but, as they were both persons of advanced age and feeble and as no autopsy was held, there is considerable doubt as to how far the treatment contributed to the unexpected termination. Dr. Byrom Bramwell has pointed out that, in cases of old persons whose arteries are atheromatous and whose heart-muscle has degenerated, the thyreoid feeding should be conducted with very great care and the remedy given in very minute doses until the effect has been accurately measured and recorded in regard to each individual. Dr. Lundie, at the outset of all thyreoid treatments, warns the patient of the risk attendant upon sudden or unusual exertion.

In the same number of the *Edinburgh Medical Journal* a case that was fatal soon after the beginning of a thyreoid treatment for myxœdema is reported by Dr. John Thomson, together with a full description of the necropsy. The case is an important one, but it cannot be clearly adduced as one of fatal result due to thyreoid administration. It teaches caution, however, in the employment of the hitherto despised gland. There appear to be no recorded results in case of persons in good health.

Another paper in the same journal, by Dr. John Thomson, recites the clinical history of a case of sporadic cretinism treated by thyreoid feeding. That the results in this case were remarkable is shown by this one fact: The patient, a lad aged eighteen, was at the beginning of the treatment thirty-three inches and a half in height; at the end of two weeks of treatment the height had increased two inches, whereas in the fourteen years preceding the stature had increased little if at all. This growth has been only one of several indications of the marked benefit of the treatment. The history of the case should be consulted for the full details.

In the same number of the *Edinburgh Medical Journal* there are, in all, six papers bearing on thyreoid treatment and the two diseases, myxœdema and sporadic cretinism. They were brought out at or in connection with a discussion of thyreoid feeding, before the Medico-Chirurgical Society of Edinburgh, at meetings held on two successive evenings in February last. The names of the physicians who took part in that discussion are Dr. Byrom Bramwell, Dr. R. A. Lundie, Dr. Melville Dunlop, Dr. John Thomson, Dr. W. W. Ireland, Dr. W. S. Greenfield, Dr. Clouston and Dr. Stalker. The latter speaker stated, in regard to the apparent increase of myxœdema in recent years, that he

knew of not fewer than twenty-one cases of that disease in the comparatively small town of Dundee. Dr. George Murray, of Newcastle, the now famed inaugurator of the thyreoid hypodermic method, was also present by invitation and advocated the use of small daily doses and the systematic enforcement of quiet during the early stages of the treatment. It was a frequent remark by the participants in the discussion that exophthalmic goitre was not materially relieved by thyreoid feeding.

Syrup of Hydriodic Acid and its Uses.—Our much esteemed friend, Dr. R. W. Gardner, of hypophosphite fame, makes, in *The New England Medical Monthly* for April, 1893, the following reply to Dr. Reynold W. Wilcox on this subject:

In an article professing to have been written by "Reynold W. Wilcox, M. D., LL. D., Professor of Clinical Medicine at the New York Post-Graduate Medical School and Hospital," read before the "Clinical Society of the New York Post-Graduate Medical School and Hospital," Nov. 5th, 1892, and published in the *Post-Graduate* for February, 1893, upon "Syrup of Hydriodic Acid and its Uses" the writer very properly extols the value of this remedy, and in doing so, draws very largely, *verbatim et literatim*, from my published literature, without giving me a particle of credit for the same. In other instances where statements have been made by me, my languuge has been paraphrased. This would have been gratifying to me, and I should have been placed under obligations to the party (or parties) who prepared the paper, by the fact that he (or they) had considered matter originating with myself of sufficient importance to be embodied, or the ideas which it expressed, in whole paragraphs, in an *original* communication, were it not that he (or they) used these very arguments, which represent the result of considerable study and research of my own during the past fifteen years, as well as the published experience of many eminent physicians in the use of Gardner's Syrup of Hydriodic Acid, for what appears to be the purpose of booming a preparation recently put upon the market in imitation of it.

The writer does me the honor to attribute a portion of my language to Duroy (references to the antispetic character of the remedy), which must have been a result of unconscious cerebration, for so far as I know, the language and the ideas which it expressed were my own.

The writer alludes to myself in a foot note, in which he remarks, that 1872 to 1879, I had made a preparation of hydriodic acid by double decomposition, for Dr. W. Gill Wylie, of New York. It is true that Dr. Gill Wylie, long previous to my introduction of this preparation in the form now known as Gardner's Syrup of Hydriodic Acid, had suggested to me the desirability of preparing a more stable preparation of this remedy, and acting upon his suggestion, after many

trials and a great deal of investigation by myself, the present Gardner's Syrup was put upon the market, and Dr. Wylie published a paper upon it in the *New York Medical Record*, 1879, Vol. xv., page 454 (the paper alluded to), and has continued to use Gardner's Syrup, from that day to this, with perfect satisfaction.

As the foot note in the paper in the *Post-Graduate* article has been worded in such a manner as to convey the impression that Gardner's Syrup is made by double decomposition, a crude method, in which secondary products form impurities, I would say that Gardner's Syrup is not, and never has been made by double decomposition. Upon reading the original paper of Dr. W. Gill Wylie, the unfair statement, or inference, will be apparent.

This allusion to a *past age*, by the writer of the article, is peculiar, when taken in connection with the free use of my *literature of 1892*, without crediting me with it. It is in fact remarkable that the author should have thought of me at all, and he doubtless would not have done so, had his mind not been refreshed by some kind friend, who "called his attention to the brief but valuable" paper of Dr. Wylie's, above referred to.

It is interesting to note that the writer in the *Post-Graduate* article gives credit in his communication to Drs. Wylie, Knight, Shoemaker, Wile, Field, Bently, Burrall and Craig, for language which is freely quoted, used by these gentlemen in commendation of *Gardner's* Syrup of Hydriodic Acid, and not only fails to mention this last fact, but refuses to credit me with the matter, extracted from my literature, which seems to form the basis of this *original* paper.

The demoralization of the present age is well exemplified, when an honored and respected "Clinical Professor in the New York Post-Graduate Medical School" can descend to copy without credit, and appropriate as his own, language used by another, and not only that, but attempt to use the ideas so obtained, against their originator, who rescued Hydriodic Acid from oblivion after it had been expunged from the Pharmacopœia as an impractical and worthless remedy, and through whose efforts and sacrifices of time and money, it has been made available, and its usefulness to the medical profession and humanity demonstrated.

If the honor of the medical profession is to be preserved and its high character maintained, it will not be by such methods as are here enumerated.

Possibly, the author was not sufficiently cautious in revising matter furnished him for this paper, which might be a mitigating circumstance.

In commenting on the preparation, in the interest of which the paper was evidently written, the author, after admitting that a permanent Syrup was made in 1878, and omitting to mention the manufacturer's name, says: "Last year for the first time was there presented to the medical profession a permanent Syrup of Hydriodic Acid which was of

suitable strength, containing 11.84 grains of hydrogen iodide to the ounce of Syrup.

As to what constitutes a suitable strength, is a matter of opinion. The results of treatment which the author has so largely quoted from the experience of the above mentioned physicians, were obtained by the use of Gardner's Syrup, which contains 6.72 grains of hydrogen iodide to the fluid ounce. The more concentrated the strength, the more liability is there that the Syrup will decompose. The strength of Gardner's Syrup has always been found to be sufficient to produce the most prompt and decided action; in fact the reputation of Hydriodic Acid has been built up by the favorable results achieved by the use of Gardner's Syrup during the past fifteen years; consequently what necessity exists for a greater strength? During the fifteen years' use of Gardner's Syrup, no one has complained of the necessity of a syrup of greater strength, except the writer of the *Post-Graduate* paper, and the firm who say they make such a preparation. The present writer believes that a greater strength would be, not only of no advantage, but a positive defect.

The chemical instability of Hydriodic Acid, it must be remembered, had always prevented its use as a medicine, until 1878, when Gardner's Syrup was introduced; up to that time no proper test had been made of its therapeutic value, as decomposition occurred almost as soon as it was prepared. This forbade its use. Consequently, in determining the question of strength, it is necessary to take into consideration the lack of chemical affinity which causes the decomposition, and which is an inherent quality of the combined elements. All other questions must be subordinated to that of a reasonable degree of permanence, and efficiency in action; both of these requisites have been proven to be possessed by Gardner's Syrup.

One of the reasons for the increased physiological action of Hydriodic Acid over the alkaline iodides, may lie in the very fact of this same feeble affinity, which possibly fits it for more thorough alterative effect in the organism. . This view seems to accord with that of Dr. A. Rose, of Lebanon, Ky., who says that unless Syrup of Hydriodic Acid is readily acted upon by exposure to heat, that he would not consider it suitable to use, though after such decomposition, it would, of course be unfit to administer. There may be some so-called "Syrup of Hydriodic Acid," which besides a proportion of Hydriodic Acid, contained some other basic combination than Hydrogen, in which the preparation would be misnamed, and would be merely an iodide, with some free Hydriodic Acid present. In such case, decomposition might be retarded, but the preparation would not be Syrup of Hydriodic Acid, and consequently would not produce the therapeutic effects of the remedy; such preparations, would not, of course, show the presence of free iodine with the starch test, as the iodine would be all in chemical combination, but containing an alkaline iodide, would prove irritating, and would be no improvement over iodide of potassium.

In conclusion, the statements made in the paper under consideration regarding the efficacy of Syrup of Hydriodic Acid, were simply well-known truths; the very evidence which he brings forward to prove this fact, is the strongest argument he could possibly produce, in favor of Gardner's Syrup of Hydriodic Acid.

American Neurological Association.—At the request of the majority of the members, the Council announced that the present meeting of the Association would be held at the West End Hotel, Long Branch, N. J., on July 25th, 26th and 27th. The annual dinner was held on the evening of the 26th.

The Preliminary Programme was: 1, Dr. L. C. Gray, of New York, "The Diagnosis of General Paresis." 2, Dr. H. A. Tomlinson, St. Peter, Minn., "The Genesis of Hallucination, Illusion, and Delusion." 3, Dr. Frederick Peterson, of New York, "A Study of the Temperature in 25 Cases of General Paralysis of the Insane." 4, Dr. Wm. C. Krauss, of Buffalo, "Observations on a Case of Myxœdema." 5, Dr. Smith Baker, of Utica, "Etiological Significance of Heterogeneous Personality." 6, Dr. G. L. Walton, of Boston, "Tumor, Involving the Angular Gyrus." 7, Dr. C. L. Dana, of New York, "A Case of Acromegaly with Autopsy. 8, Dr. Joseph Collins, of New York, "The Anatomical Changes in the Spinal Cord in an Old Case of Infantile Paralysis." A Contribution to the Cell Grouping in the Cervical Cord. 9, Dr. C. Eugene Riggs, of St. Paul, "Some Observations on the Relation of Chorea to Rheumatism, with the Narration of a Case." 10, Dr. J. J. Putnam, of Boston, "Thyroidectomy in the Treatment of Graves's Disease." 11, Dr. J. J. Putnam, of Boston, "Experiences in the Use of Testiculine and Cerebrine." 12, Dr. B. Sachs, of New York, "Tabes and Syphilis." 13, Dr. B. C. Wilder, of Ithaca, "The Paroccipital Fissure." 14, Dr. James H. Lloyd and Dr. David Reisman, of Philadelphia, "Report of a Case of Infectious Endocarditis, with General Septicæmia, Complicated with Multiple Neuritis." 15, Dr. G. M. Hammond, of New York, "Progressive Muscular Atrophy. The Pathological Report of Two Cases with the Exhibition of Microscopical Specimens." 16, Dr. Chas. K. Mills, of Philadelphia, "Lesion of the Thalamus and Internal Capsule in a Case of Hemianæsthesia, with Notes of Autopsy." 17, Dr. Frank R. Fry, of St. Louis, "A Report of Two Cases of Freidreich's Ataxia." 18, Dr. George

G. Preston, of Baltimore, "Exhibition of a Brain from a Case of Mixed Aphasia, with Lesion Confined to Broca's Region." 19, Dr. V. P. Gibney, of New York, "Peripheral Paralysis after Surgical Operations." 20, Dr. C. L. Dana, of New York, "A Case of Chorea of Sydenham with Autopsy." 21, Dr. Wm. C. Krauss, of Buffalo, "A New Form of Pedometer."

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Historical Review of Insanity.—This history of insanity, viewed as a whole, includes four distinct epochs.

The first or primitive epoch is that period of ignorance and superstition prior to any medical ideas in which insanity was considered as coming from the gods, and its treatment confided to the priests. It extended from the beginning of the world down to Hippocrates, who marks the advent of a new era, and with whom begins mental medicine properly so-called.

The second epoch is the classic medical epoch, which starts from Hippocrates and ends with the Roman decadence, after having successively passed through three brilliant periods: the Hippocratic period, the Alexandrine period and the Græco-Roman period.

The third epoch or *epoch of transition*, the beginning of which is marked by the return to the primitive superstitions adapted to the requirements of a new religion, and which did not begin to be dispelled until towards the last days of its history, also includes two periods: the Middle Ages and the Renaissance. It extends from the commencement of the Christian era to the end of the eighteenth century, that is to say, from Cœlius Aurelianus and Galen down to Pinel.

The fourth or modern epoch is that scientific period *par excellence*, which commences with Pinel, that is, from the great and memorable reform of 1793, was continued with Esquirol and his students, and may be considered at the present time to be attaining gradually its apogee.

Such are the principal stages in the history of insanity. It is now necessary to pass in review and notice briefly the principal facts relative to each.

In the first periods of existence everything is referred to celestial intervention, and insanity itself was considered by them as the possession of the individual by a benevolent or avenging divinity.

It was thus with the Jews, as is evidenced by the episodes of the maniacal behavor of king Saul and the attack of lycanthropy of Nebuchadnezzar.

We find analogous beliefs and practices among the Egyptians. There is in the Bibliothèque of Paris, an Egyptian *stèle* dating from the third century B. C., the inscription on which gives the account of an Asiatic princess, possessed by a spirit, who was cured by the intercession of the god Khons. We know also that there existed in Egypt temples dedicated to Saturn, where they purified the insane with the purpose of restoring them.

In ancient Greece the condition was the same, and the names, which were given to those deprived of reason, show plainly enough to what origin was attributed their insanity.

Everyone is acquainted with the history of the unhappy Meleager, with that of the parricide Orestes, and those not less celebrated of the daughters of Pretus, king of Argos, who, afflicted by Juno with a sort of lepra, believed themselves transformed into cows and lowed in imitation of those animals. Tradition relates that they were cured by the shepherd Melampus with the aid of hellebore, purifications and religious ceremonies.

The insane were not always considered, nevertheless, as the prey of the infernal divinities. Among them were found some, who, by reason of their delusive exaltations, passed, on the other hand, as friends of the gods, as inspired, and who prophesied the future. Among these last the Delphian pythoness is one of the most celebrated. With such beliefs as to the nature of insanity, the treatment of the insane ought clearly to consist in religious ceremonies and to be confided to the priests. This is what occurred. In Greece the Asclepiades, a sort of medical priests, who managed the temples of Æsculapius, were specially charged with their cure. Hippocrates, who later scored these charlatan priests and denounced their curative practices in which speculation evidently played the principal part, has left us a detailed account of their treatment of the insane.

The ceremony had for a prelude an adjuration to the malignant deity; they besought it to depart from the body of the possessed. After this, the patient was submitted to purifications, expiations, exorcisms, ablutions with the lustral water or the blood of a sacrificial victim.

Historical introduction to study of insanity in Dr. E. Rigis' forthcoming book, A Practical Manual of Mental Medicine, translated by H. M. Bannister, M. D.

The Proteolytic Action of Papoid.—We have noticed so many commendatory references to the therapeutic value of papoid, and so many professional indorsements thereof in our exchanges, that notwithstanding the theoretical objections and some chemical contra-demonstrations outside of the human body, that we are justified in regarding this digestive agent as worthy of professional consideration. Woodbury, Park, Chittenden and many others endorse it. The *Dietetic and Hygienic Gazette* makes the following reference to this substance:

The juice of the papaw has long been known to possess the power of dissolving and digesting proteid matter. At one time, this peculiarity was looked upon as something quite unique, but in recent years other like ferments have been discovered in the vegetable world, and to-day several proteolytic ferments of vegetable origin are more or less widely known. Curiously enough there is nearly always associated with the proteid-dissolving ferment, a rennet-like ferment. just as we find the two ferments associated in animal secretions. Thus, in gastric juice, pepsin and rennin are close allies and companions, and similarly in the papaw a proteolytic ferment and rennet-like ferment are associated either in the form of a single substance endowed with the two functions, or more probably as two closely related enzymes.

Papoid, a preparation from the papaw plant, has the power of digesting to a greater or less extent all forms of proteid or albuminous matter, whether coagulated or uncoagulated. Furthermore, papoid is peculiar in that its proteid-dissolving power is manifested in a neutral, acid and alkaline medium. To be sure, the proteolytic power of the ferment is not quantitatively the same under the above three distinct conditions, but it is plainly manifest in acid and alkaline solutions, as well as in a neutral fluid, provided of course the percentage of acid or alkali is not too large. With coagulated proteids, as cooked beef proteid, the highest digestive power is obtained in the presence of 2-4 per cent. sodium bicarbonate.

In fact it is to sodium bicarbonate with which it is usually therapeutically associated, that the potency of papoid is asserted to be due by some, but the fact still remains that the alkali does not accomplish without it what it does when associated with it. We are inclined to think, therefore, that there is something worthy of the consideration of therapeutists in this new rival to pepsin. To what extent it will supplement or may supplant pepsin we

are not prepared from personal clinical experience to determine, but it does seem to have found a place in engastric therapeutics.

A Sixteenth Century Forerunner of Brown-Sequard.—Under the old caption *Nil novi sub sole*, T. C. M., a learned literary contributor to the *Cin. Lan. and Clin.*, recalls to mind some old-time notions on a newly revived subject, which we here epitomize and abstract. Mizauld's work has for its title "Memorabilium, utilium ac jucundorum centuriæ novem, in aphorismos arcanorum omnis generis locupletes, perpulchre digestæ. Autore, Ant. Mizaldo. Lutetiæ, 1556." Among the many things, wise and otherwise, contained in this book, the following is most germane to our caption:

"*Si tauri rubri, aridum genitale in pulverem convertitur et ex eo pondus aurei unus mulieri in vino vel jusculo quopiam propinetur, fastidinum coitus illi adferet, sicuti Scripsit Rasis. Idem pulvis idoneis medicamentis commixtus languidam ac sopitam venerim in viris excitat.*"

Mizauld was born at Montlucon in 1520, and died in 1578, and was called by his biographer the Æsculapius of France.

Perhaps this is the lost author Dr. Hammond remembers having read in his youth on the subject of "animal extracts?"

The American Medical Editors will have a Meeting and Banquet in Washington on the evening of Monday, September 4th, the day preceding the assembling of the Pan-American Medical Congress.

Dr. I. N. Love, of the *Medical Mirror*, 3642 Lindell Avenue, St. Louis, has been appointed Chairman of the Committee of Arrangements for Banquet, which fact gives ample assurance of the success of the latter.

It is earnestly hoped that every medical editor of all of the Americas will endeavor to be present on the interesting occasion. Please address the Chairman of Committee of Arrangements promptly.

Neurologists! Remember the date and place of meeting of the Pan-American Medical Congress, September 5, 6, 7 and 8, at Washington, D. C.

Semmelweis Monument.—The Executive Committee of the Semmelweis Memorial, Budapest, Hungary, make an appeal to the profession of the world for funds with which to erect a suitable monument to the memory of the great physician.

The great service that Semmelweis has done for science, as founder of the doctrine of the origin and prevention of puerperal fever and the antiseptic treatment of child-bearing women is now recognized by the medical profession in all parts of the world. The profession estimates at present not only the scientific activity (*v. Die Ætiologie, der Begriff und die Prophylaxis des Kindbettfiebers v. I. Ph. Semmelweis*, 1861) of this talented investigator, but also the extent of the service which he has rendered to suffering humanity.

In April, 1891, the remains of Semmelweis (deceased 1865), were transported from Vienna to Budapest, his birthplace and the seat of his activity.

The services of Semmelweis were not confined to the narrow sphere of his native place, or even of Europe or America.

Subscriptions may be sent to the Treasurer of the Hungarian Executive Committee, Dr. Elischer, IV. Petöfi-tér Budapest, Hungary.

The results of the collection will be periodically published, and the Executive Committee hopes to be in the position of submitting a full report of its activity, on the occasion of the International Congress for Hygiene and Demography, to be held in Budapest, 1894. The appeal is dated Budapest, Hungary, February 1st, 1893.

Many great names in the profession are active in this worthy movement.

Mr. Ernest Hart, Editor British Medical Journal.—We give in the present issue an excellent likeness and biography of this distinguished worker in the field of medical journalism. His worthily spent life gives us an illustrious example of right living and of good works worthy of emulation. Mr. Hart graced the late meeting of the American Medical Association and the Association of American Medical Editors with his presence, and honored both of those bodies with able addresses on subjects germane to the purposes of either organization. The subjects, which he presented in a masterly manner, were respecting cholera and journalism

No addresses have ever been better received by the members of these representative bodies and our distinguished visitor won hosts of friends and new laurels at Milwaukee. Mr. Hart's manner of delivery is as pleasing and forcible as his method of treating his subjects is logical and exhaustive.

Mr. Hart was accompanied by his amiable, charming and accomplished wife, who made no less favorable and agreeable an impression on all who had the happiness of meeting her, than her distinguished husband.

We part with them with regret, and shall welcome them, should they come this way again, with unfeigned pleasure.

The Neurologic and Psychiatric Section of the Pan-American Medical Congress promises, from present indications, to be a most successful one.

Papers from distinguished Alienists and Neurologists have already been prepared (their abstracts being in the hands of the Committee on Translation) sufficient in number and scientific quality to assure the success of this feature of the Section, while the social feature has been well provided for.

Those wishing to register with this Section should send in their registration fee—ten dollars—to Dr. A. M. Owen, Evansville, Indiana, and receive their tickets to the Congress, which entitles them to the Transactions free.

Substitutions.—Owing to the fact that several well-known and supposedly reputable houses have been deceiving the profession by filling orders for Elixir Iodo Bromide Calcium Comp. with a bastard preparation labeled correctly or with a modification of the name, The Tilden Company have discontinued putting up the Elixir Iodo Bromide Calcium Comp. in five-pint bottles, and now offer it for sale in pint bottles only.

When ordering Elixir Iodo Bromide Calcium Comp., physicians should specify "Tilden's" and refuse to accept the preparation offered unless the label bears their name, the correct name of the preparation, and the container is a pint bottle.

Alienists! Do not forget the place and date of meeting of the Pan-American Medical Congress, September 5, 6, 7 and 8.

The Gasconade at Lebanon, Mo., is a house of comfort and a thing of beauty, therefore it is a joy forever to the tired St. Louisan, who within its hospitable walls seeks the quiet repose and pure air of the Ozark Mountains. If you seek rest and recuperation, there you find them. This and Paul Paquin, the physician, and the waters of Lebanon, all contributed to make a recent brief respite from cares, professional and editorial, exceedingly enjoyable.

Dr. Lanphear.—In the announcement of the Chicago Post-Graduate Course, Dr. Emery Lanphear, of Kansas City, Mo., will lecture upon "Some Achievements in Intracranial Surgery," and illustrate his subject from cases coming within the scope of his own personal experience and upon which he has operated.

Dr. Lanphear has had a remarkable experience in injuries and surgical diseases of the brain, and he has been singularly successful in their management.

American Electro-Therapeutic Association.—The third annual meeting of the American Electro-Therapeutic Association will be held in Chicago, September 12, 13 and 14, at Appollo Hall, Central Music Hall Block. Members of the medical profession interested in Electro-Therapeutics are cordially invited to attend. Augustin H. Goelet, M. D., President; Margaret A. Cleaves, M. D., Secretary.

Doctor a Century Old.—Dr. De Bossy, of Havre, still in practice, has reached his one hundredth year. He was awarded a medal during the last cholera epidemic. In a speech at a dinner given a few days ago in his honor, he said his father had lived to be one hundred and seven years of age, and he hoped to live as long.

Dr. Ernest Hart, Editor of the *British Medical Journal*, and Prof. Dr. Czerny, of Heidelberg, will be among the distinguished guests of the Pan-American Medical Congress. The latter is booked for the Pan-American Excursion to Rome by the "Werra."

New Hospital Superintendents.—Dr. S. V. Clevenger having resigned the superintendency of the Eastern Illinois Asylum for the Insane, at Kankakee, Dr. Clarke Gapen, of Chicago, has been elected to fill the vacancy. The new incumbent was formerly connected with the State Hospital for the Insane and the State University, of Madison, Wis. At present he holds a professorship in the College of Physicians and Surgeons, of Chicago.

Dr. Charles K. Mills.—The chair of Mental Diseases and of Medical Jurisprudence in the University of Pennsylvania, has recently been filled by the appointment of Dr. Charles K. Mills, of Philadelphia. This renowned University has made a wise selection in this appointment, reflecting honor alike upon itself and upon the new professor.

THE PAN-AMERICAN MEDICAL CONGRESS.

SECTION ON MATERIA MEDICA AND PHARMACOLOGY.

A Section on Materia Medica and Pharmacology has been organized under the Executive Presidency of Professor Joseph P. Remington, of Longport, N. J., with Professor F. G. Ryan, 3739 Brown St., Philadelphia, as English-speaking Secretary. This Section promises to be one of the most important of the entire Congress. Delegates have been invited from all the pharmaceutical societies and colleges in all the Americas. Those contemplating attendance are invited to prepare papers on pharmaceutical topics. Titles should be sent at once to Professor Ryan, Secretary.

COMMITTEE OF ARRANGEMENTS,

WASHINGTON, D. C.

Samuel S. Adams, M. D., Chairman; J. R. Wellington, M. D., Secretary; G. L. Magruder, M. D., Treasurer.

Executive Committee.—Dr. Samuel S. Adams, Chairman; Surgeon-Generals Geo. M. Sternberg, U. S. A.; J. Rufus Tryon, U. S. N.; Walter Wyman, U. S. M. H. S.; Drs. S. C. Busey, G. Wythe Cook, Carl H. A. Kleinschmidt, H. L. E. Johnson, Llewellyn Eliot, H. H. Barker, C. W. Richardson, W. Sinclair Bowen, Geo. S. Ober, G. L. Magruder, J. R. Wellington and John R. Walton, D. D. S.

SUB-COMMITTEES:

Reception.—Dr. S. C. Busey, Chairman; Surgeon-Generals Geo. M. Sternberg, U. S. A.; J. Rufus Tryon, U. S. N.; Walter Wyman, U. S. M. H. S.; Drs. J. Ford Thompson, Charles Hagner, Louis Mackall, J. Taber Johnson, T. Morris Murray, G. Byrd Harrison and Jos. H. Bryan.

Entertainments.—Dr. G. Wythe Cook, Chairman; Drs. G. N. Acker and Thos. E. McArdle.

Registration.—Dr. Carl H. A. Kleinschmidt, Chairman; Drs. John S. McLain and Johnson Eliot.

Railroads.—Dr. H. L. E. Johnson, Chairman; Drs. E. L. Tompkins and J. Foster Scott.

Printing.—Dr. Llewellyn Eliot, Chairman; Drs. Thomas N. Vincent and F. B. Bishop.

Halls and Exhibits.—Dr. H. H. Barker, Chairman; Dr. J. T. Winter and C. M. Buchanan.

Ways and Means.—Dr. C. W. Richardson, Chairman; Drs. John Van Rensselaer, Wm. Dillenback, Henry B. Deale and Wm. Compton.

Information.—Dr. W. Sinclair Bowen, Chairman; Drs. E. Oliver Belt and F. S. Nash.

Hotels.—Dr. Geo. S. Ober, Chairman; Drs. Wm. E. Handy and D. O. Leech.

OFFICIAL DELEGATES.

Practically all of the Governments have appointed Official Delegates to the Congress in response to the invitation by the President of the United States. The U. S. Government will be represented by six delegates. The larger cities of all the Latin-American countries have appointed delegates to participate in the proceedings of the Sections on Hygiene, Climatology and Demography, and on Marine Hygiene and Quarantine, and similar appointments will be made by the cities of the United States. Seventy-six similar delegates have so far been appointed by the Governors of States in the United States. A large number of delegates have been chosen by the medical colleges of the United States and other American countries to attend the Section on Medical Pedagogics, under the Presidency of Professor J. Collins Warren, of Boston.

SECTION ON GYNECOLOGY AND ABDOMINAL SURGERY.

All members of the medical profession are cordially invited to attend the meetings of this Section to be held in Washington, September 5th, 6th, 7th and 8th.

The sessions promise to be exceptionally interesting, many valuable papers having been contributed. Those who may wish to read papers before this Section and who have not yet sent in their titles and skeleton abstracts are requested to do so at once.

Papers have already been contributed by the following distinguished gentlemen from the United States and Canada: Drs. T. Johnson Alloway, Montreal, Can.; A. W. Abbott, Minneapolis, Minn.; J. M. Baldy, Philadelphia, Pa.; H. J. Boldt, New York City; Augustus P. Clarke, Cambridge, Mass.; Ernest W. Cushing, Boston, Mass.; Andrew F. Currier, New York City; L. H. Dunning, Indianapolis, Ind.; Geo. R. Deane, Spartansburg, S. C.; W. E. B. Davis, Birmingham, Ala.; Joseph Eastman, Indianapolis, Ind.; Geo. M. Edebohls, New York City; De Saussure Ford, Augusta, Ga.; William Gardner, Montreal, Can.; T. H. Hawkins, Denver, Col.; John R. Haynes, Los Angeles, Cal.; Edw. W. Jenks, Detroit, Mich.; Jos. Taber Johnson, Washington, D. C.; Howard A. Kelly, Baltimore, Md.; Florian Krug, New York City; G. Betton Massey, Philadelphia, Pa; Lewis S. McMurtry, Louisville, Ky.; R. B. Maury, Memphis, Tenn.; Wm. F. Myers, Ft. Wayne, Ind.; E. E. Montgomery, Philadelphia, Pa.; Robert T. Morris, New York City; Chas P. Noble, Philadelphia, Pa.; Jos. Price, Philadelphia, Pa.; Geo. H. Rohé, Baltimore, Md.; Jas. F. W. Ross, Toronto, Can.; Chas. A. L. Reed, Cincinnati, O.; I. S. Stone, Washington, D. C.; R. Stansbury Sutton, Pittsburg, Pa.; T. Algernon Temple, Toronto, Can.; A. Vander Veer, Albany, N. Y.; W. B. Ward, Topeka, Kan. W. W. Potter, Executive President; Brooks H. Wells, 71 West 45th St., N. Y. City, English-speaking Secretary.

REPORT OF THE COMMITTEE ON PERMANENT ORGANIZATION OF THE PAN-AMERICAN MEDICAL CONGRESS TO THE AMERICAN MEDICAL ASSOCIATION, MILWAUKEE, WIS., JUNE, 6TH, 1893.

To the American Medical Association:

Your committee appointed at Washington to effect a permanent organization of an Inter-Continental American Medical Congress, begs leave to submit its final report as follows:

"An organization has been effected under the style and title of the Pan-American Medical Congress, to be held at the City of Washington, D. C., September the 5th, 6th, 7th and 8th, A. D. 1893, under the Presidency of Prof. Wm. Pepper, M. D., LL. D., of Philadelphia. The details of the organization are set forth in the published preliminary announcement of the Congress, copies of which are respectfully submitted herewith, in both English and Spanish, as a part of this report.

Since the publication of this preliminary announcement an organization has been effected in Paraguay. Your committee is therefore pleased to state that an organization of the Pan-American Medical Congress exists in every State and Territory of the United States, and in every remaining country and colony of the Americas, including the West Indies and Hawaii.

A provision has been adopted since the foregoing publication whereby every medical society, national, colonial and local, has been made a constituent organization of the Congress.

The committee begs leave to report further that the organization which has been effected as above and which, by the authority you have conferred upon it, has been and is already very actively engaged in carrying out the practical ends of the Congress.

The Senate and House of Representatives at the first session of the last Congress adopted a joint resolution, authorizing the President to extend an invitation to the Governments of the Western Hemisphere to send official delegates to the meeting, and to appoint similar delegates on behalf of our own Government. This official invitation has been issued through the Department of State and all replies so far received have been in the nature of acceptances. The President has indicated that the Government of the United States will be represented at the Congress by six delegates. At the last meeting of the Executive Committee of the Congress a resolution was adopted directing that in view of the Columbian Exercises in progress in America this year, and in view of the relations which have become intimate between the United States and Spain, that the Government of the latter country be requested to send delegates to the Congress. It was thought that the exceptional relations of amity existing between the two countries would warrant a course which has been avoided with regard to all

other European countries out of deference to the interests of the International Congress which is to meet in Rome.

The National Congress at its last session appropriated fifteen thousand dollars ($15,000) for the purposes of entertainment of the meeting.

The President of the United States has consented to open the Congress in person and to extend the courtesy of a reception at the White House to delegates and their families.

A special feature of the Congress will be the proceedings of the Sections on Hygiene, Climatology and Demography and on Marine Hygiene and Quarantine. The proceedings of these Sections will be largely of the nature of a sanitary conference with particular reference to practical questions of public health and of imminent importance.

With this object in view, every municipality of the three Americas, including the West Indies and Hawaii, has been invited to send an official delegate, and a very large number of acceptances have already been received.

The titles of several hundred papers, accompanied in many instances with abstracts, have already been received from representative medical writers in the English, Latin, French and Portuguese countries. This, of itself, assures the scientific success of the Congress.

Invitations have been extended to representative European scientists to be guests of the Congress and a number of acceptances have been received.

In conclusion, your committee begs leave to express its appreciation of the spontaneous response to its appeal for funds in the form of advance registration fees from the public-spirited representatives of our profession in America. Let it be remembered, no registration fees will be accepted from members of the Congress residing outside the United States. Although money has been realized from advance registrations in amount sufficient to pay some of the preliminary expense of organization, a still larger sum is needed with which to meet accumulated obligations.

It should be held in mind that the Congressional appropriation, meager as it is, will be available only for purposes of entertainment at the time of the meeting, and that the expense involved in publication, correspondence and clerical work is necessarily very heavy

and must be met at once. The members of the profession are therefore again urgently requested to register at once by paying the fee ($10) to the treasurer, Dr. A. M. Owen, Evansville, Ind. Those who thus become members of the Congress but who may be prevented from attending the meeting will receive a set of the Transactions, which, of themselves, promise to be worth more than the amount of the registration fee.

In submitting this, its final report, your committee begs leave to thank the Association and its executive officers for cordial support, and the medical press for its energetic and efficient aid in promoting this earnest movement for the unification of the medical profession of all the Americas.

Respectfully submitted on behalf of the committee,

CHARLES A. L. REED, Chairman.

[DICTATED LETTER.]

Office of DR. CHARLES A. L. REED,
311 Elm Street,
CINCINNATI, June 21, 1893.

To Executive Presidents and Secretaries of Sections, Pan-American Medical Congress:

I beg leave to advise you that at the last meeting of the Excutive Committee at Washington it was resolved to hold four (4) general sessions of the Congress. The first to occupy the entire forenoon of September 5th, the next two to occupy one hour each, beginning at 10 o'clock on the mornings of the 6th and 7th, and concluding with the afternoon of September 8th, beginning at 3 P. M.

It is the design of the Executive Committee that the meetings of Sections shall occupy, on September 5th, from 3 to 6 o'clock P. M.; on the 6th and 7th, from 11:15 A. M. to 1:15 P. M., and from 3 to 5 P. M.; and on the 8th, from 10 A. M. to 1 P. M.

This information is communicated for the purpose of enabling officers of Sections to arrange their programmes. The Arlington Hotel will be the headquarters of the Secretary-General. It will greatly facilitate the work if officers of Sections will endeavor to take apartments either there or as conveniently thereto as may be practicable. Respectfully submitted,

CHARLES A. L. REED,
Secretary-General.

THE REPUBLIC OF COLOMBIA AND THE PAN-AMERICAN MEDICAL CONGRESS.

The Department of State at Washington has promulgated the following letter recently forwarded by the United States Minister to Colombia:

REPUBLIC OF COLOMBIA,
Foreign Office,
BOGOTA, March 14th, 1893.

To His Excellency John T. Abbott, Envoy Extraordinary and Minister Plenipotentiary of the United States, etc.:

SIR:—I have received, together with your very polite note of February 27th last, a copy of the Instructions of the Department of State in Washington, relating to the meetings of the Pan-American Medical Congress, whose sessions will take place in the coming month of September.

The Government of Colombia recognizes that the labors of that Congress will favor the advancement of Medical Science, and will actively contribute to the advancement of judicious regulations connected with hygiene and naval quarantine. In response to the courteous invitation which the Government of the United States has been pleased to extend through your honorable Legation to be officially represented in the said Congress, this Government has appointed as its delegate for that purpose, Dr. Pio Rengifo, to whom instructions will be transmitted through the Office of Public Instruction.

Asking you to be kind enough to notify the proper person of the appointment of the said Dr. Rengifo, I am pleased to reiterate to your Excellency the assurance of my most distinguished consideration.

MARCO F. SUÁREZ,
Secretary of Foreign Affairs.

GOVERNMENT APPROPRIATION FOR THE CONGRESS.

Early in the last session of Congress, the Secretary of the Treasury and the Secretary of State jointly recommended that an item be inserted in the Sundry Civil Bill, appropriating $15,000 for the entertainment of the

Pan-American Medical Congress. The item was rejected by the House Committee on Ways and Means, but was reintroduced in the Conference Committee by Senator Gorman, under whose able championship it was agreed to and became a law. The medical profession will not soon forget this considerate act on the part of the Senator from Maryland.

GOVERNMENTAL DELEGATES.

Hon. Rowland B. Mahaney, United States Minister to Ecuador, transmits information through the Department of State that Dr. Ricardo Cucalon, of Guayaquil, has been appointed one of the delegates for that country to the Congress.

BRAZIL.

The United States *Chargé d'Affaires* at Petropolis has transmitted information through the Department that the Government of Brazil has accepted our invitation to take part in the Congress, and has appointed Dr. J. Baptista da Lacerda, the distinguished teacher and scientist of Rio de Janeiro, one of the delegates thereto.

MEXICO.

The Mexican Legation at Washington furnishes information that Dr. Fernando López, Surgeon-General of the Mexican army, has been appointed one of the delegates to represent the Government of Mexico.

NEUROLOGICAL SECTION.

The following papers have been promised for this Section, the abstracts of most of which are in the hands of the Literary Bureau:

"The Problem of Drink Habit Disease, and its Successful Treatment," Dr. Jno. G. Reed, Elmwood Place, Ohio. ———, Dr. E. C. Seguin, N. Y. City. ———, Dr. Theo. Diller, Pittsburg, Pa. ———, Dr. S. Weir Mitchell, Philadelphia. "The Gangliated Nervous System and Some of its Diseases," Dr. Chas. K. Mills, Philadelphia, Pa. ———, Dr. E. C. Spitzka, New York.

———, Dr. Wm. A. Hammond, Washington. "The Traumatic Psychoneurosis, its Relations to Paranoia, Epilepsy and Paretic Dementia," Dr. J. G. Kiernan, Chicago, Ill. "The Urine in Sexual Neurasthenia," Dr. C. L. Dana, New York City. "Suppurative Meningitis and Myelitis, with Exhibition of Specimens," Dr. Graeme M. Hammond, New York City. "The Disease of Inebriety and its Treatment," Dr. T. D. Crothers, Hartford, Conn. "Automatic Cerebration," Dr. J. K. Bauduy, St. Louis, Mo. "Chorea," Dr. Chas. Henry Brown, N. Y. City. "The Successful Management of Inebriety without Secrecy in Therapeutics," also "Morbid Erotism and Conträre Sexual Empfindung," Dr. C. H. Hughes, St. Louis. "Study of the Temperature in Twenty-five Cases of General Paralysis of the Insane," also "The Present Status of Infantile Cerebral Palsies," Dr. Frederick Peterson, N. Y. City. "Where the New-born Baby Learned to Suck," Dr. C. A. F. Lindorme, Atlanta, Ga. ———, Dr. O. T. Sherman, Boston, Mass. "The Treatment of Nervous Diseases in Sanitariums," Dr. James K. King, Watkins, N. Y. "The Treatment of Cerebral Hemorrhage," Dr. D. R. Brower, Chicago, Ill. "Neuro-Angio Paralysis and its Relation to Paretic Dementia," Dr. Frank C. Hoyt, Clarinda, Iowa. "Insomnia," Dr. Herbert Judd, Galesburg, Ill. ———, Dr. S. V. Clevenger, Chicago, Ill. "The Prognosis in Railway Spine," Dr. F. X. Dercum, Philadelphia, Pa. ———, Dr. Howell Pershing, Denver, Col. ———, Dr. E. L. Tompkins, Washington. ———, Dr. Robt. H. Porter, Louisville, Ky. ———, Dr. Curran Pope, Louisville, Ky.

C. H. Hughes,
Executive President.

Excursion to Rome.—It has been definitely determined that the Pan-American Medical Congress Excursion to the Eleventh International Medical Congress will sail on the S. S. "Werra," from New York, September 9th, the day following the adjournment of the Congress at Washington, and will arrive at Genoa September 20th, four days before the opening of the Rome meeting.

SECTION IN MARINE HYGIENE AND QUARANTINE.

The Section in Marine Hygiene and Quarantine has been organized as follows:

Honorary Presidents: Dr. Lino Alarco, Lima, Peru; Dr. Henry B. Baker, Lansing, Mich.; Dr. Cardenas, Managua, Nicaragua; Dr. J. J. Cornilliac, St. Pierre, Martinique, French West Indies; Dr. Felix Formento, New Orleans; Dr. H. B. Horlbeck, Charleston; Lieutenant-Colonel Amalio Lorenz, Sub-Inspector of Second-Class Spanish Navy, Havana; Dr. F. Montizambert, Quebec, Canada; Dr. Francisco Nunez, St. Tecla, Salvador; Dr. Juan Ortego, Guatemala, Guatemala; Dr. Joseph Y. Porter, Jacksonville, Fla; Dr. John Pringle, Kingston, Jamaica; Dr. Juan J. Ulloa, San Jose, Costa Rica; Dr. J. Mills Browne, Surgeon-General, United States Navy.

Executive President: Dr. Walter Wyman, Surgeon-General United States Marine-Hospital Service, Washington.

Secretaries: Dr. S. T. Armstrong (English-speaking), 166 West Fifty-Fourth Street, New York; Dr. G. M. Guiteras (Spanish-speaking), United States Marine Hospital Service, Washington.

Advisory Council: Dr. H. M. Biggs, New York City; Dr. John C. Boyd, United States Navy; Dr. H. R. Carter, Norfolk, Va.; Dr. W. M. L. Coplin, Philadelphia; Dr. A. G. Clopton, Galveston, Texas; Dr. C. G. Currier, New York; Dr. S. Durgin, Boston; Dr. Seneca Egbert, Philadelphia; Dr. George Homan, St. Louis; Dr. W. T. Jenkins, New York; Dr. J. F. McShane, Baltimore; Dr. G. H. F. Nuttall, Baltimore; Dr. S. R. Olliphant, New Orleans; Dr. Dabney Scales, Mobile; Dr. R. M. Swearingen, Austin, Tex.

The Executive President desires to call the attention of all members of the medical profession that are interested in the topics pertaining to this Section to the regulation of the Congress: that contributors are required to forward, not later than July 1, to the Secretary of the Section, abstracts, not to exceed six hundred words each, of the papers they propose to present before the Section.

The topics that will be considered by this Section are as follows:

1. The hygiene of vessels, commercial or naval, including the questions of ventilation, heating, sanitary arrangements, the disposal of cargo so as to facilitate disinfection, food supply, etc.

2. The medical officers of passenger vessels; methods for their selection, duties, etc.

3. The vital statistics of seamen and firemen. The question of the medical examination of crews preparatory to shipping.

4. The supervision of vessels by Government Medical Inspectors at ports of arrival and of departure. Code of rules for handling an epidemic disease that breaks out on shipboard. Disinfection of passengers and crew during a voyage. Location and arrangement of ships' hospitals.

5. Epidemic and exotic diseases propagated by shipping. What diseases should be quarantined? Responsibility of nations for epidemics (India for cholera, South America for yellow-fever). Can a feasible plan be devised to totally exterminate cholera? International intervention to prevent the propagation of cholera or other epidemic diseases by pilgrimages or immigration?

6. International uniformity in quarantine regulations. Should quarantine officers be notaries public?

7. Arrangement of detail and equipment of quarantine stations: *a*, inspection stations; *b*, local quarantine stations; *c*, refuge stations. Methods for handling infected or suspected vessels. Interstate and inland quarantine; sanitary cordons; camps of refuge; camps of probation. Recent improvement in hospitals for infectious diseases. Railroad inspection and quarantine. Length of time vessels should be held in quarantine. Conditions that should determine proclamation of quarantine against a country. Under what requirements may passenger traffic be carried on between a port infected with yellow-fever and a Southern port of the United States during the summer with the least obstruction to such traffic? What merchandise should be considered as requiring treatment if shipped from a port or place infected with cholera, yellow-fever or small-pox?

8. Methods of disinfection: *a*, persons; *b*, baggage; *c*, cargoes; *d*, vessels. Recent improvements in quarantine appliances; steam chambers; sulphur furnaces. Liquid sulphur dioxide as a disinfectant. Treatment of ballast: water, solid. What time should an infected vessel be detained in quarantine?: *a*, for cholera; *b*, for small-pox; *c*, for typhus fever; *d*, for plague; *e*, for yellow-fever. Methods of disposal of the bodies of those that die while in quarantine.

SECTION ON GENERAL SURGERY.

The Section on General Surgery extends a cordial invitation to all medical gentlemen engaged in the practice of surgery, as teachers or practitioners in any of its branches, to participate in all its meetings and contribute papers for general information. Such papers should conform to the requirements as set forth in the general regulations of the Congress. In view of the wide extent of the constituency of the Congress, and the varied human environment necessarily under observation, it is suggested that the topic of endemic or surgical diseases prevalent in each country might fittingly receive a large share of attention from the members of this Section; but carefully written papers upon any topic connected with surgical bacteriology, surgical pathology or operative surgery of the regions, will be welcomed by the Section. John B. Hamilton, M. D., Executive President, Chicago, Ill.; John Ransohoff, M. D., English-speaking Secretary, Cincinnati, O.; W. H. Heath, M. D., Spanish-speaking Secretary, Buffalo, N. Y.

MANIFESTO OF THE SECTION ON OTOLOGY.

Honorary Presidents.—Drs. Adolph Alt, St. Louis, Mo.; Albert H. Buck, New York; Gorham Bacon, New York; Wm. Cheatham, Louisville, Ky.; Francisco de P. Chacon, City of Mexico; Sebastian Cuervoy Serrano, Sancti Spiritu, Cuba; J. C. Connel, Toronto, Canada; Stephen Dodge, Halifax, Nova Scotia: J. B. Eaton, Portland, Oregon; A. A. Foucher, Montreal; John F. Fulton, St. Paul; J. Wilford Good, Winnipeg, Manitoba; Francis B. Loring, Washington, D. C.; Henry D. Noyes, New York; Arturo Costa Pruneda, Santiago, Chili; Charles Inslee Pardee, New York; G. Sterling Ryerson, Toronto, Canada; D. B. St. John Roosa, New York; W. H. Sanders, Mobile, Ala.; Belisario Sosa, Lima, Peru; G. C. Savage, Nashville, Tenn.; J. J. B. Vermyne, New Bedford, Mass.

Executive President.—Dr. C. M. Hobby, Iowa City, Iowa.

Secretaries.—Dr. Max. Thorner (English-speaking), Cincinnati, O.; Dr. H. McHatton Spanish-speaking), Macon, Ga.; Dr. Fernando Perez, Buenos Ayres, Argentine Republic; Ernesto Mazize, La Paz, Bolivia; Theodora Peckholt,

Rio de Janeiro, U. S. of Brazil; J. H. Wishart, Toronto, Canada; Carlos Esquerra, Bogota, Republic of Columbia; Demetrio Orantes, Guatemala City, Guatemala; H. G. McGrew, Honolulu, Hawaii; Antonio Peñafiel, City of Mexico, Mexico; Dr. Montenegro, Leon, Nicaragua; N. Surh, Montevideo, Uruguay; Focion F. Cordero, Merida, Venezuela; Carlos Desvernine, Havana, Cuba.

Advisory Council.—Drs. F. N. Lewis, New York; M. D. Jones, St. Louis, Mo.; J. H. Thompson, Kansas City, Mo.; Robt. Tilly, Chicago, Ill.; Thomas E. Murrell, Little Rock, Ark.; N. J. Hepburn, New York; Harold Gifford, Omaha, Neb.; H. C, Hawley, Sioux Falls, S. Dak.; Edward M. Whitney, New Bedford, Mass.; T. J. Tyner, Austin, Tex.

The section of Otology has been rendered necessary by the fact that, while the treatment of diseases of the ear has in the past been mainly in the hands of ophthalmologists, the recent advances in the study of diseases of the nose and pharynx, have necessarily divided the practical work of treatment of the diseases of the ear; so that at present we find these diseases considered by both ophthalmic and rhinologic surgeons. It is hoped that in this section surgeons of both classes nay meet, and to this end the effort will be made to secure hours not conflicting with either of the other sections.

Communications in reference to papers should be addressed to the English-speaking Secretary, Dr. Max Thorner, 141 Garfield Place, Cincinnati, O.; suggestions as to work, and exhibition of instruments, to the Executive President, Dr. C. M. Hobby, Iowa City, Iowa.

SECTION ON PATHOLOGY.

Officers.—John Guiteras, M. D.. Executive Pres., Philadelphia, Pa.; David Inglis, M. D., English-speaking Sec'y, Detroit, Mich.; L. F. Criado, M. D., Spanish-speaking Sec'y, Brooklyn.

The Programme of the Section on Pathology is as follows: Special attention of the profession is called to the practical Demonstrations in Pathology, photo-microscopy and Bacteriology.

One session devoted to a formal discussion on the subject of Cancer, to be opened by Dr. Wernicke, of Buenos Ayres, and, as co-referee, Prof. Allen J. Smith, of Galves-

ton. Papers on this subject have been promised by Dr. Joshua M. Van Cott, Honorary President of the Section, and Dr. Joseph McFarland of the Advisory Council.

Another session will be devoted to Yellow Fever, the discussion to be opened by Drs. Acosta and Grande, of Havana, Cuba, and, as co-referee, Dr. A. J. Amades of Puerto Rico, Honorary President.

One day, two sessions, will be devoted to Practical Demonstrations, as follows: Dr. James E. Reeves, of Chattanooga, of the Advisory Council, Practical Demonstration of the methods in Pathological Histology. Dr. Wm. M. Gray, of the Army Medical Museum, Practical Demonstration of the Methods in Photography applied to Pathology. Dr. J. J. Kinyoun, P. A. Surg. U. S. Marine Hospital service, Practical Demonstration of Methods in Bacteriology.

Papers have been promised as follows: 1, Notes on Three Years' Work in the Pathological Laboratory of the Charity Hospital of New Orleans, by Dr. Henry Dickson Bruns, of New Orleans. 2, Medical Geography of Puerto Rico, by Dr. A. J. Amades, of Puerto Rico. 3, Theories of Inflammation, by Dr. Jose Torres Matos, of Havana. 4, On Inflammation, by Dr. E. O. Shakespeare, of Philadelphia. 5, On Cholera, Dr. Herman M. Briggs, of New York. 6, L'etat de Hyperexcitabilite du Nerf Phrenique, dans le Beribiri, by Dr. J. B. de Lacerda, of Rio de Janeiro. 7, Paludismo, by Dr. A. J. Amades, of Puerto Rico. 8, Bacteriologocial Observations on the Waters of the Harbor of Havana, by Drs. Acosta and Grande. 9, Observations on Malaria, by Drs. Coronado and Madau. 10, Operations of the Anti-rabic Laboratory in Havana, by Dr. Acosta. 11, Abscess of the Liver, by Dr. James E. Reeves, of Chattanooga. 12, On Influenza, by Dr. Ramon Guiteras, of New York. 13, Observations on the Brains of Feeble-Minded Children, by Dr. Henry W. Cattell. 14, Pathology of Pelvic Inflammatory Trouble, Dr. Joseph Price, Philadelphia.

Papers have been promised, without giving the subject, by Prof. Wm. H. Welch, of Baltimore; by Dr. W. J. Councilman, of Boston; and by Dr. G. F. H. Nuttall, of Baltimore, and Drs. Wm. Hughes and W. J. Carter, of Philadelphia.

IN MEMORIAM.

DR. T. L. WRIGHT.—The recent death of Dr. T. L. Wright, of Bellefontaine, Ohio, well-known by his many contributions to our pages, is a sad loss to advanced and advancing psychiatry in the ranks of general medicine respecting the true medical status of alcoholism and the medico-legal relations of its victims.

He died suddenly of apoplexy at a ripe old age, at his home in the city of Bellefontaine, Ohio, in the midst of his family and friends, among whom he had long lived and labored as a physician and philanthropist. His life was in every way a correct and commendable one. His humane sympathies were broad, his intellect was comprehensive and his energy above that of the average physician of his time, place and age.

He lived and labored more for others than for himself, and died mourned by the community he served so long and well, among whom he was "so long and so much loved and honored."

To his bereaved family we convey the condolence of a *confrère* who comprehended his capacity and the worth of his life-work to the profession and to mankind.

He was "one who loved his fellow-man."

DR. R. J. PATTERSON was born in Mt. Washington, Mass., September 8th, 1818. After an academic education, he graduated from Pittsfield (Mass.) Medical College in 1842. He began his professional life as an assistant in the Columbus (Ohio) Insane Hospital. Later he became superintendent of the Indiana Insane Hospital, going from there, after five years' service, to the superintendency of the Iowa Insane Hospital. In 1866 he founded "Bellevue Place" at Batavia, Ill., one of the leading private retreats for the insane in the United States. It has been so carefully conducted under the disgraceful laws of Illinois that not even a whisper of suspicion was breathed against its management. A vigorous contemporary speaks thus eulogistically of our deceased friend:

"Dr. Patterson, like the generation of alienists to which he belonged, was fearless of public denunciation where the interests of the insane were concerned. Defy-

ing the unscientific, mendacious and brutal cant anent consequences to society, he stood firmly for the legal rights of the insane to immunity for the consequences of disease. Dr. Patterson's contributions to the literature of psychiatry were chiefly to be found in his hospital reports. In his day psychiatrical contributions were discouraged by the medical press. In his reports he shows a keen clinical insight into the causes of disease and scorns popular prejudice. At a time when the farmer's brutal neglect of the mental and physical hygiene of his wife and children was praised as the acme of health-giving practice, he exposed its senseless brutality in fitting terms.

"His views have since been fully corroborated from other States. In his private retreat at Bellevue Place, Dr. Patterson will long have a memorial of his genial, courteous manner, his grand humanity, and his psychiatrical skill. He leaves a decided gap in the ranks of Illinois alienists."

We can add no more in commendation of the memory of this worthy colleague. Among men of medicine, his memory will long be cherished, and those who have been the recipients of his skillful and kindly ministrations will greatly miss him.

REVIEWS, BOOK NOTICES, ETC.

PSYCHOPATHIA SEXUALIS, with Especial Reference to Contrary Sexual Instinct. A Medico-Legal Study. By Dr. R. von Krafft-Ebing, Professor of Psychiatry and Neurology, University of Vienna. Authorized translation of the seventh, enlarged and revised, German edition. By Charles Gilbert Chaddock, M. D., Professor of Nervous and Mental Diseases, Marion-Sims College of Medicine, St. Louis; Fellow of the Chicago Academy of Medicine; Corresponding Member of the Detroit Academy of Medicine; Associate Member of the American Medico-Psyhcological Association, etc. In one royal octavo volume, 436 pages, extra cloth, $3.00 net; sheep, $4.00 net. Sold only by subscription. Philadelphia: The F. A. Davis Company, Publishers, 1914 and 1916 Cherry Street.

This is a book of interest to the psychologist, the psychiatrist, the neurologist, the medico-jurist and the literary and historical student of psychical and psychiatrical anomalies and perversions. The multiform deviations of the sexual appetite and of the erotic feelings based thereon or associated with this universal instinct, and all o the indelicate features of this indelicate subject, are delicately portrayed in the volume before us, the author modestly and judiciously employing phrases in the Latin text where modesty would be offended by the bold revolting detail of scientific fact. The perversions of the sexual instinct and the wrong exercise of the sexual passion are matters of medical and juridical study. While in a lengthily-written review exception would have to be taken to some of the author's propostions, such for instance, as the statement that while woman is monogamous, man is polygamous (which is not true, since the master mind of man has given to the social status of civilization monogamous marriage,) and provided laws for its maintenance and the protection of women in the single marital relation. "Psychopathia Sexualis" is, nevertheless, the best book extant upon this singular subject of psychical study. This endorsement holds good, also, notwithstanding the line is not always sharply drawn, by the author, between sexual perversions in some directions, which are the result of repression of the normal exercise of the natural sexual instinct, and the tyrannical impulsions of diseased organism.

The tribute which the author pays to Christianity is well deserved, and his views of the relationship between religious and sexual feeling is fortified by historical example and psychiatric observation. "Unsatisfied sensuality very frequently finds an equivalent in religious enthusiasm."

This book is more interesting in its deductions and philsophy than entertaining in detail. It is a book to be read only by the sexually mature and psychically balanced. In its psychopathic effects it might prove dangerous in its influence over the neuropathically unstable. To the prurient curiosity of that morbid sexual element, which too exten-

sively abounds in modern social life, its examples and personal histories would prove psychopathic poison. But since the alienist physician cannot refrain, from motives of delicacy, from study of the foulest phases of psychical life any more than the general practitioner can, from the examinations of excrement and other unwholesome excretions; such revolting details as appear in some of these life histories must be taken cognizance of, because they are a part of the perverted psychical symptomatology of morbid organism, as vice and crime are necessarily subjects of study to the moral economist.

The translator has done his work delicately and well.

PSYCHOPATHIA SEXUALIS, mit besonderer Berücksichtigung der conträren Sexualempfindung. Eine Klinisch-forensische Studie von Dr. R. v. Krafft-Ebing, o. ö. Prof. f. Psychiatrie und Nervenkrankheiten, a. d. k. k. Universität Wien. Achte verbesserte und theilweise vermehrte Auflage. Stuttgart, 1893. Verlag von Ferdinand Enke.

The English translation of this famous work has already been mentioned in the ALIENIST AND NEUROLOGIST; but the number of our German readers, as well as the number of English-speaking Americans desirous of a more complete knowledge of the German language, is so great that an announcement of the original edition of the work deserves a place in our columns. Krafft-Ebing's work is destined to bring light into spheres of life that many of us scarcely dared speak of heretofore, and to teach us to understand facts that either remained obscure in the past or whose existence was denied. The large number of autobiographies that the author has received from sufferers that fall under the different classes of sexual psychopathics, proves that the celebrated alienist is not dedicating his time and brains to exceptional phenomena, but to realities that are found within the reach of every practicing physician. Some recent occurrences in the States—which the ALIENIST AND NEUROLOGIST did not fail to report and to analyze—are the best proof of this, and show the necessity for the medical man, as well as for the lawyer, to study works like this. Krafft-Ebing does not limit himself to the medical side of the question. He goes fully into the juridical consequences of the facts that he and those following a similiar line of studies have revealed and tried to explain. In some places it might appear as if he himself were a little afraid of those consequences, as for instance when he is reporting and criticising the case of Dr. G. (pages 301-303), who defended his homo-sexualism before the police magistrate of Graz, Austria, and claimed protection, or at least tolerance for his mental abnormality. It appears natural that the author, living in a state like Austria, hestitates a little to openly defy public opinion. This may also be the reason why, in sketching the social position of woman and its historical development, he follows the generally adopted view of the highly civilizing influence of early Christianity in his main text, giving the historical truth in a long foot note.

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ALCOHOLISM AND ITS TREATMENT. By J. E. Usher, M. D., Fellow of the Royal Geographical Society of London, etc. G. P. Putnam's Sons, New York, and Baillière, Tindall & Cox, London, publishers.

DRUNKENNESS. By George R. Wilson, M. B., C. M., Assistant Physician the Royal Asylum, Morningside, Edinburgh. Swan, Sonnenschein & Co., London, and Charles Scribner's Sons, New York, publishers.

These are valuable studies both for the physician and the student of social problems. The doctor of medicine, the doctor of divinity and the philanthropist will find in these books, but especially in the contribution of Dr. Wilson, much food for reflection. Such books as these should be often read by legislators, physicians in general practice, ministers and all who have the welfare of their fellows at heart. Inebriety is a disease—a disease-engendered vice, and a vice-producing disease. It springs from vicious habits in some instances—it leads to them in others. It comes from neurotic inheritance, and it causes and entails neurotic instability. The effects of alcoholism in producing neurotic degeneracy has been familiar to the profession since and before the days of Benjamin Rush. These volumes set forth the sequences of alcoholism with force and essay its treatment. They are on the right track. All that is yet needed is general professional and popular enlightenment on the same lines of thought and work, to begin the much-needed restoration of the great army of drinkers, now imperiling the safety of modern civilization. When authors, such as the above, multiply in number until they are read in every community of physicians and their teachings shall be generally taught and practiced, inebriety and its baneful neuropathic sequences will begin to disappear, and may ultimately be eradicated from the race. But it will be a long time before all will realize that "wine is a mocker" as a beverage, and that "whosoever is deceived thereby is not wise."

Sur les Hallucinations Verbales Psycho-Motrices dans un cas de Délire de Persécution Systématisé, a Evolution Progressive Chez Une Dégénérée. Par Le Dr. J. Roubinovitch, Paris.

Secret Nostrums and Systems of Medicine; a Book of Formulas. Compiled by Charles W. Oleson, M. D. Fourth edition, revised and enlarged. Oleson & Co., Chicago, Publishers.

Milk, its Adulteration and Relation to Infectious Diseases, with Remarks on Food Adulteration in General. By Winslow Anderson, A. M., M. D., M. R. C. P., London, etc.

Stearns' Dose Book, compiled especially for the use of physicans and pharmacists, to whom it is mailed gratis on application. Frederick Stearns & Co., Detroit, Michigan.

The Clinical Value of Repeated Careful Correction of Manifest Refractive Error in Plastic Iritis. By Charles A. Oliver, M. D., Philadelphia, Pa.

The Neuropathic Constitution, Education and Marriage as Factors in the Causation and Propagation of Nervous Diseases. By John Punton, M. D., Kansas City, Mo.

Abstract of Paper on Clinical Medicine, including Diagnostics and Therapeutics. By W. F. McNutt, M. D., M. R. S. C., Edin., etc., California.

The Indications for Amputation in Chronic Disease of the Larger Bones and Joints. By J. E. Summers, Jr., M. D., Omaha, Neb.

Free Incision of Abscess of Ostitis of Hip; and Closure without Drainage. By H. Augustus Wilson, M. D., Philadelphia.

A Propos D'un Cas de Maladie des Tics Convulsifs, avec Mouvements par Obsession. Par Le Dr. Roubinovitch, Paris.

Importance of Arterio-Sclerosis in the Etiology of Posterior Spinal Sclerosis. By George J. Preston, M. D., of Baltimore.

Asexualization, as a Penalty for Crime and Reformation of Criminals. By Orpheus Everts, M. D., College Hill, Ohio.

Some Further Remarks on Elastic Constriction as a Hæmostatic Measure. By N. Senn, M. D., Ph.D., Chicago, Ill.

De la Dynamométrie Chez les Aliénés. Par Le Docteur Edouard Toulouse, Médecin-adjoint de l'asile Saint-Yon.

Practical Details in the Preparation of Plaster-of-Paris Bandages. By H. Augustus Wilson, M. D., Philadelphia.

Report of Cases of Chronic Delusional Insanity—Paranoia. By Matthew D. Field, M. D., New York.

Case of Syringomyelia, with Necropsy. By James Taylor, M. A., M. D., Edin., M. R. C. P., London.

Report of an Interesting Case of Feigned Insanity. By M. D. Field, M. D., New York.

The Orthopedic Work of the late Mr. Thomas. By A. J. Steele, M. D., St. Louis.

Insanity as Related to Civilization. By Orpheus Everts, M. D., College Hill, O.

Traumatic Lesions of the Spinal Cord. By George J. Preston, M. D., Baltimore.

Recent Studies of Carnivorous Plants. By Jared G. Smith, St. Louis.

Plaster-of-Paris in Orthopedics. By A. J. Steele, M. D., of St. Louis.

Neuritis and Myelitis and the Forms of Paralysis and Pseudo-Paralysis Following Labor. By Charles K. Mills, M. D., Philadelphia.

Ulceration of the Rectum About the Sigmoid-Flexure—With a Report of Three Cases. By Leon Straus, M. D., St. Louis.

Acromegaly, with the Clinical Report of a Case. By Archibald Church, M. D., and William Hessert, M. D., Chicago, Ill.

The Cure of Complete Prolapse of the Rectum by Posterior Proctectomy. By John B. Roberts, M. D., Philadelphia, Pa.

Colles' Fracture, Illustrated by Photographs of Splints used in Treatment. By E. H. Woolsey, M. D., Oakland, Cal.

Points of Similarity Between Us and Homœopathic Physicians. By John B. Roberts, A. M., M. D., Philadelphia, Pa.

Die Paralysis spinalis syphilitica (Erb) und verwandte Krankheitsformen. Von Dr. Sidney Kuh, aus Chicago.

A Study of the Cheyne-Stokes Respiration. By Samuel Wolfe, M. D., Philadelphia, Pa.

Surgical Dressings, Aseptic and Antiseptic. By Seward W. Williams, Ph. C., F. C. S.

Modifications of Respiration in the Insane. By Theo. H. Kellogg, M. D., Flushing, L. I.

On Sporadic Cretinism. By William W. Ireland, M. D., Edin., Mavisbush, Polton.

The Treatment of Alcoholic Inebriety. By Frederick Peterson, M. D., New York.

Neurasthenie und Syphilis. Von Prof. Paul v. Kowalewsky, Charkow.

Idiopathic Muscular Atrophy. By J. S. Eskridge, M. D., Denver, Colorado.

Pachymeningitis—Myxedema. By Samuel Wolfe, M. D., Philadelphia, Pa.

Hæmatomyelia and Acute Myelitis. By Joseph Collins, M. D., New York.

Don'ts of Rectal Surgery. By Leon Straus, M. D., St. Louis.

Pyloric Obstruction. By H. Tuholske, M. D., St. Louis.

Othæmatoma. By Matthew D. Field, M. D., New York.

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ORIGINAL CONTRIBUTIONS.

Erotopathia.—Morbid Erotism.*

By C. H. HUGHES, M. D., St. Louis,

President, and Professor of Neurology and Psychiatry, Barnes Medical College.

WITHIN the past few years the neurologist and the alienist have become familiar with so many strange morbid perversions and reversions of the erotic sentiments and sexual passion, that they must be considered and classified in their relation to society, to morals and to law, and Science must severally category these perversions of proper and natural human passion, as they may be found to be purely psychological moral perversities or to belong among the neuroses or the neuro-psychoses, and determine in them, respectively, the resistless or resistable involvement of the will, separating the psychoses of sexual aberration from the simple neuroses of perverse sexual sensation and impulsion, without overwhelming impairment of volition, and these from simple moral vice, uninfluenced or unextenuated by neural disease. The sexually insane must be differentiated from such of these perverts as are not damaged in mind to the degree of insanity; a difficult task, yet one now imperatively demanded of psychiatry.

Westphal, Moll, Krafft-Ebing and many others have presented instances of sexual perversion under the titles

* Read before the Section of Mental and Nervous Diseases, Pan-American Medical Congress, September 7th, 1893.

of "Erninger and Conträre Sexualempfindung," psychopathia-sexualis, homo-sexuality, etc., the *anima muliebris in corpore virili inclusa*, according to Ulrichs, himself a sexual pervert, and reasserted by Magnan, Kiernan, Gley and Lydston.* Others have written upon frotteurs, sadists, necrophiliacs, anthropophagists (Jack-the-Rippers), sexual hermaphroditism and other titles, all referring to the subject of perverted sexuality and morbid erotism.

Joseph Workman, of Toronto (*American Journal of Insanity*, Vol. XXVI., No. 1), in a paper read before the Association of Superintendents of American Hospitals for the Insane, June 6th, 1879, has recognized among the insane, cases of the religious emotional type of insanity, in whom exalted sexual feeling alternated with religious frenzy; and Schroeder Van der Kolk before this time called attention to the intimate relation discoverable between religious melancholia and an abnormal condition of the generative organs; and we also have paranoiac, pa etic and lypemaniac forms and every possible intervening shade of mental aberration in morbid erotism, as well as simple erotic neuropathia without mental disease.

This subject had not escaped the observation of Esquirol, who, describing erotic delirium, and referring to historic records, reminds us that the case of Heloise and Abelard presented an example of the association of erotomania with the prevailing religious sentiments of their time, and he thus draws the line between this morbid perversion of the passion of love and nymphomania and satyriasis. He also says:

> Erotomania is to nymphomania and satyriasis what the ardent affections of the heart, when chaste and honorable, are in comparison with frightful libertinism; while proposals the most obscene, and actions the most shameful and humiliating, betray both nymphomania and satyriasis.

The records of lunatic asylums give us many examples

* *Vide* "Psychopathia-Sexualis."

of the delusion of sexual reversion and subsidiary delusions in harmony with this dominant morbid idea.

Dr. C. B. Burr, of Pontiac, Michigan (*Medical Standard*, August, 1893), reported to the American Medico-Psychological Association the case of a paranoiac female who imagined herself to be a man, and announced that her title was Lord George. She assumed the stride of a man in walking and the attitude of one while sitting. After six years' confinement the patient was relieved of a tumor, and now again recognizes the fact that she is a woman. Dr. Burr has noticed that of late years delusions as to change of sex are becoming more frequent. Marriages between females also occur of late more frequently; the "husband" usually being a criminal in male attire, who leads a double life; honest with the "wife," but criminal with a gang at a different time of the year. These latter, which are simply immoral cases, are to be differentiated from the pathological, though they may be both, thus complicating our subject.

Respecting the evolution of normal and natural love we may remark, as Thompson and Geddes have stated, that in most of the emotions and in the simpler intellectual processes there is common ground between animals and man. This is especially true of the emotions associated with sex and reproduction. The love of mates has its root in physical sexual attractions, but has been greatly enhanced by psychical sympathies. The means of sexual attraction rise from the crude and physical to the subtle and psychical with growth of love. The intellectual and emotional differences between the sexes are correlated with the deep constitutional differences, and are the natural divergences of normal variations in organism. Male and female are complementary, and each in its own way. The love for offspring has grown as gradually as the love for mates. Even lactation and maternal care may be in part egoistic except in a few precociously tender animals. Genuine love for offspring

is only emphatic in birds and mammals, where the reproductive sacrifice of the mother has also been greatly increased. The cuckoo illustrates the evolution of a criminal habit mainly due to constitutional conditions. Egoism and altruism have their roots in the primary or nutritive, and love in the reproductive, activity. The divergent streams of emotion and activity have a common origin, subtly mingled at various turning points, and ought to blend more and more in one.*

When we ascend from the lower animals up to man, and still further from the lowest human substratum of savage and semi-civilized man to the higher type of civilized and cultured manhood, we observe so refined and delicate a blending of passion and love that the two seem really separate and separable from each other, and in fact *are* so in the earlier and later years of human life, *i. e.*, before puberty and after the decline of virility in man or the passage of the climacteric in woman. Abelard, emasculated, jealously coerces Heloise into cloistered celibacy. These facts may have some bearing upon our subject.

That function of love, jealousy, intimately allied in the lower animals and the lower order of man with the sexual life, has passed in process of the organic evolution of our species, from an instinct of the lower organism to a place in the higher mind, regulated, restrained, influenced and influencing the sovereignty that resides in the intellectual centers of the cerebrum. Obeying the sovereign mind, its properly regulated indulgence gives health, vigor and tranquillity; perverted by wrong volitions unrestrained, or by disease weakening the mind in its dominion, disquietude, diseases, disturbances and tragedies follow. Jealousy, morbid, has helped to fill the world with woe. Its varieties† are: jealousy of the senses (mere animal); moral or sentimental jealousy (heart jealousy); social or conjugal (which may or may not include the preceding).

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* "Evolution of Sex," page 260.

† Paul Bourget.—*La Physiologie de l'Amour Moderne.*

Other facts of observation may aid us in solving problems of criminal responsibility in a class of cases germane to our subject, which we sometimes have to consider, viz., normal love. Normal love cherishes the loved one. Abnormal passion, solely selfish in desire and aspiration, considers not the welfare of its object so much as the wishes of self, but for the accomplishment of its end wounds body or mind, and destroys both, if necessary. Passion, unrequited vengefully, breaks down all barriers. The mutual *odi et amo* of Catullus and Lesbia belong rather to lust than love. Love is tender, passion is violent. Love considers the loved one, passion regards only self and its instincts, impulses and wishes.

We make no plea here in extenuation of genesic perversity, lust, rapine, pederasty, homo-prostitution, etc. Disease does not ordinarily originate them. It only sometimes exceptionally excuses them. Salacity and sexual perversity may be solely immoral with no excuse in disease or pre-natal organic perversion. Sexual orgies the most revolting may co-exist with erotic disease on the part of some and without disease on the part of others who participate in them, as the London orgies of 1885, the Manhaters' dance in Berlin and the floral festivals honoring the prostitute Flora of Ancient Rome, after Rome had, under the athlete and martial vigor of private and civic virtue, conquered the world and fallen a self-slain victim to her own unbridled luxury and lust.

Normal love, too, has immoral perversities as abnormal love has its morbid perversions. Though there were Catos who blushed at the shameless lasciviousness of these shocking floral games of the Roman area played by nudity decorated with flowers, it must not be forgotten that the depraved populace of the amphitheater, neurotic and neuropathic alike, deliriously applauded this nude exhibition of men and women in lascivious attitude and public sexual commerce. Julius Cæsar was not, like his chaste wife, above suspicion, for does not Suetonius the historian say of the conqueror of all the Gauls that he

was "*omnium mulierum virum et omnium virorum mulierem?*"

Morals and civilization have advanced beyond those of Rome. There are now no amphitheaters and no temples dedicated to Isis, no Gardens of Priapus (at least no public ones). *Venus Voluptia* and *Venus Salacia* have fled from the public courts. Neither religion nor law nor the general morals now countenance the open *rendezvous* of the lecherous and debauched, and no Catullus sings in soiled Latin verse of lascivious perversion, though we still have the lascivious contortions of the *jardin mabile* and certain obscene forms of the modern ballet and certain modern love novels, suggestive, without the open consummations, of the festival of Flora.

We cannot enter into the motives of a Tiberius, who under the limitless license of the imperial prerogative commits acts of monstrosity unfit for print, or of a Nero emasculating and publicly wedding a Sporus, but we understand Hiliogabalus better. He loved the male slave who enslaved him and whom he made his wife and did not harm him. This was morbid erotism, and so appears the act of Nero above referred to; likewise the wedded union of Callistratus and Afer of Roman history. Certain we are that the lascivious libertinism and perverted sexual vices of antiquity intermingled then, as now, in both neurotically sound and unsound organism, have not been obliterated from mankind. It has been passed along through the centuries. And we are confronted in this as in all other studies of perverted functions of the nervous system and superimposed mind, with facts that belong alike to psychology and psychiatry, to neurology and neuriatry, namely, atavic descent and direct hereditary transmission. To solve aright the problems of morbid erotism and psychopathia-sexualis we shall have often to go back in a given case, if not to ancient history, at any rate to the ancestral records of character, so far at least as the grandparents, as we have to do in rightly determining other questions in psychiatry.

The trend and purpose of this paper is to further emphasize the fact that there is a neuropsychical instability of the organism, dominating individuals to the extent of developing resistless aberrations of thought and conduct connected with the genesic sense, now attested by abundant clinical observation in the field of practical psychiatry, aberrations entitled to be classed among the insanities. The recent example of Alice Mitchell, the sexual pervert of Memphis, Tennessee, who murdered her *fiancé*, Freda Ward, whom she so ardently loved that she wished to flee with her, marry her, maintain her and live with her as a man would live with his wife, wearing a mustache and the clothing of a man, murdered her because she feared that Freda would be lost to her love, intending to cut her own throat at the same time, because without her, life was no longer worth living, brings this and kindred subjects once more forcibly to the minds of alienists and recalls the records of history and of the writers we have just quoted.

It is not strange that in these days of over-strain and over-indulgence of all the emotions, the propensities and the passions of the mind, inherent tendencies to neuropathic instability should display themselves, under the heightened pressure of favoring environment, in peculiar forms of failure of inhibition and in exaltation and perversion of the erotic feelings and the sexual powers as well as in the other familiar forms of neuropathic involution, with which neurology and alienism are now so familiar.

There is as certainly a morbid erotism, or propensity to excessively and perversely indulge the love passion, as there is an alcoholism, or alcoholic disease dependent upon an organic and inherited neuropathic or self-acquired instability, deeply laid in the molecular movement of the nerve centers which underlie the expression, emotion, impulse, thought and action, by which the individual—the ego—acts upon feelings, suggestions and inclinations originating within him in a manner different from what would have been normal to him or natural to

civilized mankind in general, arising from external impression which would not excite the same or similar emotion thought or deed in others who are normally constituted. This is the true morbid erotism of the neuropathic, and it is, of course, a nervous disease of erotic instability. Neurology and alienism must grapple with it, place it, and category it among the psychoses or the neuroses. The older writers have long ago recognized and described it in its aggravated forms as erotomania. Every now and then it forces itself on public and professional attention as in the case just mentioned and other similar historic instances, and in its other forms, as in nymphomania, satyriasis and in the manustupros that tenant our penal institutions and the homes of the imbeciles and the hospitals for the insane.

Besides the well-known illusional and delusional forms of perverted sexual feeling among females, like the modern Madonnas who bear anew the immaculate Christ, and the modern masculine insane who, in transformed madness, imagine themselves the sinless sons of God, there are the sexual hypochondriacs among both male and female neuropaths and among both sexes; also, the opposite mental states of psychical and physio-psychical neuropathic perversion, like many of the modern perambulating insane prophetesses of the Lord portending and proclaiming good or evil to the world according to the melancholic or paretic bias given to their distorted ideations by exalted or depressed cerebral activities—the under or over-nourished state of morbidly-acting ganglion cells in the cerebral cortex.

Such, and many other varieties of perverted erotoreligious feeling and thought, are to be found in varying forms not here indicated, both within and without the asylums.

The paranoiacs are, as yet, mostly outside of these institutions. The public and the general profession, which knows little more of the delicate shades and intricate features of mental aberration than the people in general,

have not yet sufficiently recognized it to secure the proper and timely sequestration of these pestilent cranks who are so pernicious to our personal weal and to the public welfare.

There are lypemaniacs and exalted erotics and those in whom shades of depression mingle with their exalted erotism and *vice versa*, and many intermediate grades of aberrant mental feeling, thought and action.

There are eroto-neuropaths and there are eroto-psycho-neuropaths, or more properly speaking, there are neuro-erotics who have reached the stage of sufficiently marked mental derangement to be classed as insane. There are many such. They are not markedly psycho-neuropathic in their erotism, but mainly unstably neuropathic. That is, though they have somewhat unstable nervous organisms in which a morbid erotism occupies and influences mind more than it ought, the mind in them has not yet become so weakened or disordered as that it sees not that the perverted erotic feeling is wrong, or sees not the propriety and necessity of resisting it. The mind does not succumb to, or become lost in, the morbid erotism. It is yet resistive, combative and regulative. Still sanely balanced, though often assaulted by the morbid erotic feeling. The higher inhibitory centers of the supreme psychic area of the cerebrum still retain their physiological regulation and control. These erotics feel abnormally but still act rightly. They yet belong to the domain of neurology, or *neuriatry*, if you will allow the coinage. Later, if their malady progresses, they may claim the attention of the alienist. They may pass into the domain of psychiatry. They are liable to become, at any time, under environment favoring the development of their disease, psycopathic, as well as neuropathic, and to need from without the restraint they cannot exert from within upon themselves, over their erratic, perverse and destructive erotic inclinations—the restraint and seclusion from the world which a properly organized asylum for the insane alone affords these unfortunates. The tendency of

the age is to mitigate, if not to abolish, moral restraint. Freedom—physical, political, moral, mental, is the shibboleth of the people, and hordes of neuropaths in whom impulses to moral degradation, entailed or acquired, are unresisted, now come to the surface, that, in other ages, when laws were more rigid, were suppressed. The retrograde changes that have been going on in the morals of this country, as Esquirol said of France, "have produced more insanity than our political troubles." Neither did the revolution in France nor the rebellion in this country produce so much insanity as the sentiment of moral non-restraint or relaxation of self-control have done and are doing among those whose nervous organisms are inherently unstable. Sexual sensualism, to which those of neuropathic heredity are often congenitally predisposed, yielded to, brings on neuropathic excess and perversion of the genital instinct. When religion becomes simply a usage and a rite rather than a regulation of moral conduct; when the ambition of the age is to shine and scintillate rather than to grow in moral worth and in the grandness of self-control; when position and not self-equipoise is the purpose of the ambitious, and self-gratification of the pleasing propensities and passions and the indulgence of agreeable vices, the aim of the many; when through pursuit of pleasure, without prudent restraints, unstable neurotics become still more unstable under the exhausting, irritating pressure of such adverse environment and pass from simple neuropaths a little abnormal in their feelings, to fully-developed psycho-neuropaths, if love or the sexual passion be ascendant in the nature (and it is the dominant passion of mankind), the individual becomes startlingly deformed in mental feeling to the astonishment even of psychiatrists, accustomed as they are to seeing unique forms of diseased distortions of the mind. He or she develops into an erotic pervert or an erratic lover of his own sex—an "*erninger*," a "*maedchen schmecker*," a *sadist*, *fetichist*, *tribadist*, etc.—an unnatural libidinous lover of a fellow-being organized

like himself or herself, an erotopath (if you will accept this expression), and one of the momentous questions for psychiatry to now settle is when this morbid erotism, or erotopathy, is simply a neurosis, and when and where does it pass from simple neurosis into that degree of psycopathy which entitles it to be classified as insanity—uncontrollable, irresponsible insanity?

If we interrogate the records of this neurotic disease (*Vide* Appendix—Workman's Cases of "Alternating Eroto-Religious Insanity and some cases from Krafft-Ebing), and from them endeavor to discover how much of grave psychosis and how much of simple neurosis we may find in them, we shall see by applying the accepted tests of alienism, that the first five of Krafft-Ebing's cases epitomized in the Appendix show disease and perversion of sexual instinct, but they could not be classed as irresponsibly insane. The sixth case seems to have progressed to a mono-delusive stage as to her change of organism, with melancholia and suspicions of infidelity regarding the woman whom she loved.

We now invite your attention to the following, of which I have been personally cognizant:

A venerable and really good clergyman fell into disgrace from an act of exhibitionism, after the restraints of the higher intellectual centers over the lower and perverted instinctive impulsions had weakened the once well-trained volitional powers of the reverend old man and caused him to go into retirement and professional obscurity. A lawyer of my acquaintance, of ability, but of lowly heritage, he never cared to disclose, acknowledged to perverted homo-sexual instincts and impulsions, and finally, under mortification and chagrin, and fear of disclosure of his perverted instincts, committed suicide. Cases like these are common.

In February of the past year (1892), a quiet, cultured and gentlemanly appearing young man committed suicide by shooting himself at his room in a hotel in St. Louis. A combination of causes probably led to the

my last rites be attended by as little expense as possible. A pauper cannot expect to repose in a metallic casket. I am going to bed, to sleep and gain nerve to face my fate. I have felt it must be, and since I have known you, I knew you were to be the last straw. I have loved you better than you have ever loved or will ever be loved again. Think kindly of that love sometimes. I am unworthy, but my love for you is worth a thought. Pray for my soul. Amen."

Much more than a sentiment of warm friendship for one's benefactor is breathed in these epistles of passion, desperation and love, with its sequel of chagrin and suicide, without remorse for, or full appreciation of, the unnatural character of his perverted love. Though his Christian training had taught him to regard his unnatural passion as a sin.

The next record I have to make (from the proceedings of a recent public trial) is one in which this form of erotopathy developed into clearly defined insanity, with the murder of the loved object as its sequel.

This girl was pronounced insane, on the witness stand, by Dr. John H. Callender, Superintendent of the Nashville (Tennessee) Asylum; also by Dr. Michael Campbell, of the Asylum at Knoxville, Tennessee, and by Doctors F. L. Sim and B. F. Turner, of Memphis, and other physicians, including the family physician who attended the lady's mother through several attacks of puerperal insanity, at one of these confinements the lady under consideration having been born. Expert depositions sustaining the view of insanity in this case were taken of Doctors Charcot, and Hammond, of Washington, and also that of the former family physician.

The history of this case may serve to throw some light on the probable cause of the condition under consideration, for while there existed undoubted love and passion for one of her own sex, leading to jealousy, the victim of this form of sexual perversion was proven to have indulged in a very promiscuous kind of flirtation with the other sex as well, and the murdered girl, also

infatuated with her murderer, was not always averse to the attention of men. How much may not mutual masturbation have had to do with the development of a morbid and perverse erotism in both? May not premature genital irritation, coupled with heredity, be a neurotic source of this baneful neuropathic perversion of the noble passion of love? Libidinousness, impurity and lascivious sensuality are developed in this way, and by early bad companionship and salacious literature.

Case of Alice Mitchell and Incidentally Freda Ward.

Alice Mitchell and Freda Ward, two young women, loved each other, "not wisely, but too well." Their love culminated in a matrimonial engagement as between man and woman. The engagement ring was procured by Alice and placed on the finger of Freda. An elopement was mutually planned and the clergyman to perform the ceremony was decided upon. Alice was to dress as a man, with a false mustache. "She knew she could marry Freda; she did not expect to have children," was her response to a physician's interrogatory (Dr. Turner's, after the murder) as to the impossibility of one woman marrying another, and "she could not be reasoned out of her idea that there was nothing preposterous in her marrying Freda."

The elopement was prevented through intercepted letters and the vigilance of the relative with whom Alice was stopping, on the very night it was to have taken place, while the steamer that was to have carried them away was at the landing (at Memphis, Tennessee).

An enforced separation follows this discovery—some estrangement on the part of Freda—an attachment for a young man, which she later gives up and returns to Alice's love and embraces. They become again separated, have the usual lovers' misunderstanding, then jealousy succeeds on the part of Alice and its often sequel—vengeance. Alice goes in search of her recreant lover with her father's razor concealed about her person, finds her on the public road-side and remorselessly cuts her throat

in the presence of the victim's sister and with her own sister in the buggy from which she leaps to do the murderous deed. She intended to kill herself, too, she says, but forgot it, because the murdered girl's sister belabored her with an umbrella. After the deed she went home, told she had cut Freda, and then began laughing and talking about other things. When the Chief of Police came to arrest her and asked how badly her victim was cut, she laughed and said, "Well, she bled mightily." She had had a whitlow and a thumb-stall on her finger. At the time of the assault on Freda she had cut her own hand and blood was on the thumb-stall. She put the thumb-stall carefully away among her keep-sakes, "because it contained the blood of both," she said. The next day, in a state of morbid mental exaltation, she read the account of her deed and of the death of her late beloved. She laughed over it and remarked upon it (so says the testimony) "as though she was not concerned in it."

And now we will let the unfortunate girl speak for herself as she testified, when summoned by the prosecution in the trial, the question being as to her mental condition.

When placed on the witness stand in the court before which she was tried as to her present mental status, this young lady deported herself and answered as follows to the questions of Attorney-General Peters :

Q. How long had you known Freda Ward (her victim)? A. As long as I can remember.

The Attorney-General then asked about her visit to Gold Dust (a neighboring town) and she told in substance the facts of the tragedy. When asked if she met any young men at Gold Dust, she said she met two, Will. B. and Ashley R. Freda, she said, was engaged to R. Freda told her that Ashley had proposed to her (Freda) to run away and get married.

Q. Did you want her to marry Ashley? A. No.

Q. Why not? A. Because I wanted her myself. (Here witness broke down and wept briefly.)

Q. Did any words pass between you and Freda just before the killing? A. No, sir, she only winked her right eye at me as she passed in front of the custom-house.

Q. Did that mean anything in particular? A. Freda always told me that winking the right eye meant, "I love you."

Q. Why did you follow Freda down the stone walk? A. To cut her. (The girl's mouth shut down like a vise when she had spoken.)

Q. Why did you want to cut her? A. Because I knew I couldn't have her and I did not want anybody else to have her. I knew Harry Bilger loved Freda and I thought Ashley Roselle did, and I was afraid one of them would persuade her to marry him.

At first she intended to follow Freda down to the boat and kill her there, as it was a better place than the street. She could not explain why she determined to do the deed on the stone walk.

The witness continuing, told her story of the killing, which coincided in every material point with the testimony of the preceding eye-witnesses. While everybody else in the court-room, says the reporter of this trial, waited on her words with breathless interest, she settled herself comfortably in the chair and described the tragedy with infinite coolness.

As we carefully read this narrative and critically study all the facts, we discover the absence of ordinary motives which actuate the sane murderer. She gratifies neither malice nor revenge, nor cupidity, in the ordinary sense of these terms, in the doing of the desperate deed. The natural womanly timidity in the face of such a crime, of one of her station and rearing, does not influence or deter her from its perpetration. She does not contemplate it with horror. Neither the self-interests of her heart, her pocket or her passion are satisfied in the act. She does not gloat over it as

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one of just revenge, or lament it as one of unjust violence towards the one of all others nearest to her heart, as Freda Ward undoubtedly was. In her weak and insane mind she thinks it an adequate justification and thoroughly good reason for destroying the woman she so intensely and morbidly loved, that she "loved her and might lose her." This is the reasoning of love merged into madness.

After the deed she confesses to no anger, makes no special plea in justification of it, admits no mistreatment, says she "would like to see Freda now," "she was beautiful and attractive" and she "loved her more than anybody else," and does not discern the incongruity of such an unnatural love, the impropriety of such a damaging admission, nor realize as a sane person would, on trial for her life, the horrible nature of the crime she is charged with committing. She had deluded herself that Freda, her heart's idol, was lost to her. This was enough. Fresh from a spell of despairing, insane grief, of love which imagined itself hurt and with the very razor she had bought for the unnatural purpose of developing on her upper lip the manly attribute of a mustache, that she might in man's apparel pass for a man, she coolly cuts the throat of her affianced of her own sex without sign of regret. Now let her speak on and note the words and manner of insanity in her utterances.

"As I started down the hill," she said, "I took the razor out of my pocket and when I overtook her I cut her with the razor. I slashed her throat with the first stroke. She pulled away a little and said, 'Oh, Alice!' or something like that. Then came a scream from Jo Ward or Christina Parnell, I don't know which. I let go of Freda and turned around and Jo Ward smashed me with an umbrella, saying, 'You dirty dog, what are you doing to my sister?' I said, 'I'm doing what I came here to do and I don't care if I hang for it.' Jo raised the umbrella to strike me again and I cut her on the chin, I think. I did not want to hurt Jo, but when she called me that name it made me mad and I did not know

what I was doing. I had intended to cut Freda's throat and then cut my own, but Jo bothered me and so I ran after Freda and cut her again. I did not want to butcher her up that way. All I wanted to do was to kill her. Somehow, I forgot to kill myself."

Q. Were you mad at Freda for any reason? asked General Peters. A. No.

Q. Had she mistreated you? A. No, she had not.

Q. What person did you love better than anybody else? A. Freda Ward.

Q. Didn't you love your relatives? A. Yes, but not as well as I loved Freda.

Q. Why did you write to young men? A. Because I did not have Freda to write to any more, and here another gush of tears came, but were quickly dried as before.

Q. Would you like to see Freda now? A. Of course I would.

Q. Would you cut her throat again? A. I don't know what I'd do.

Q. Why did you love Freda Ward? A. I don't know.

Q. Did you think she was beautiful and attractive? A. I did.

Q. What were you doing in your room at home? A. Crying, mostly.

Q. Where did you write those letters? A. In my buggy.

Q. What were you crying about so much in your room? A. Because I could not have Freda with me.

Q. You loved her like a sister, didn't you? A. More than that (and once more the witness' voice shook and tears sprung to her eyes).

Q. Did you take laudanum once? A. Yes, sir.

Q. Why? A. Because Freda told me she was going to marry Ashley Roselle, and that she loved another girl besides me.

Q. Did you arrange to marry Freda? A. Yes, sir;

Dr. Patterson was to marry us. If he refused, some Justice of the Peace, or somebody else would do it.

Q. Did you not know it would not be right for one girl to marry another? A. Yes, but I was going to dress like a man and I thought nobody would find out that I was a girl. I intended to take Freda to St. Louis and work for her.

Witness said she liked Jo Ward till Jo went on the stand and told stories about her; still she felt sorry for Jo since Freda was dead.

Q. Do you remember telling Freda in a letter that you would send a certain kind of rose to her? A. Yes, sir.

Q. What kind of a rose did you mean? A. I don't know now.

Then General Wright took the witness in hand. To him she said she was to go under the name of Alvin J. Ward and Freda was to be Mrs. Alvin J. Ward.

Q. Were you going to have a mustache? asked General Wright. A. Yes, sir. Freda wanted me to have one. I didn't care for mustaches myself.

Q. How are you going to get one? A. By shaving.

She said she first got the razor on the 1st of November last. Freda had told her that she and Jo would be down from Gold Dust some time in November. She had come near cutting Freda's throat on the 7th of January, when the latter passed her in front of a photographer's on Hernando street. "But Lillie Johnson was with me," said the witness, with something like a sigh, "and I could not get the razor without her seeing me. I did not want Lil to know what I was going to do."

Referring to her proposition to Freda Ward that they should both commit suicide by taking laudanum, witness said: "I told Freda, when she refused, that if she would go to sleep I wouldn't take the stuff; I didn't intend to take it, anyway. I intended to put the laudanum in her mouth while she was sleeping so she would swallow it when she awoke. She would not take it, so I concluded to take it myself."

Q. Do you still want to kill yourself? asked Major Fleece, a member of the jury. A. I have wanted to die ever since Freda did, said the witness sadly.

Q. Do you intend to try to kill yourself again? A. I don't know, but I want to die.

Q. That thumb-stall with the blood on it, do you want to preserve it as a keepsake? A. Yes, sir.

Q. Do you think it will do you good to look at it? A. Yes, sir; I'm sure it will.

During the examination of the defendant her father and brother watched her with ill-suppressed emotion. Tears coursed down the old man's cheeks, and when it was all over he was totally unstrung. Indeed there was but one person in the large assemblage who did not feel the relaxation of the severe tension of that half-hour, and that was the unfortunate prisoner herself. She was very cool. She seated herself so as not to crumple her dress and immediately entered into conversation with those around her, talking in an animated way and laughing at times in a gay manner entirely out of harmony with her surroundings.

The case was submitted without argument by both prosecution and defense, and within eight hours thereafter, the jury having retired, brought in a verdict of "Not guilty, by reason of insanity," and recommended her commitment to the State Asylum for the Insane at Bolivar, Tennessee, where she now is.

It will be noted in the above case that this girl's insanity was decided not alone on the very apparent fact of sexual perversion, though she was not averse to the society of young men, but had recklessly flirted with a number of them at Gold Dust while visiting the Ward girls there (testimony of Mrs. Volkman), and admitted corresponding with them, but also and mainly on her often-proven insane improprieties, the evidences of insanity in the crime itself and the general conduct and speech of the fair defendant herself, so evidently out of harmony with the natural character and surroundings

of a sane woman reared and environed as was this unfortunate girl. The public estimate of this case may be gleaned from the following reportorial record made at the time in public prints:

"If any doubt of her mental unbalance had lingered in the minds of the jury it must have been effectually dispelled by the manner and testimony of this witness. She ascended the stand with a steady step and seated herself carefully, arranging her drapery so as to set off her plump figure to advantage and faced the arbiters of her fate with the unflinching unconsciousness of a child. She spoke in an easy conversational tone, enunciating every word distinctly, and giving ready answers to questions put to her. There was not the slightest suggestion of bravado, but rather the frankness of one fully prepared and one perfectly willing to impart information of no special interest to the informant. She lost her serene self-possession only when speaking of the mutual love that had existed between Freda Ward and herself. At these passages she would cry a little, then brace up and go ahead as before. At first it seemed that the State had made no mistake in placing her on the stand, for she talked for awhile in a perfectly rational manner, but when she began describing the tragedy itself, and proceeded to tell how she cut and slashed her victim, and all without the slightest trace of emotion, every hearer felt that it was no sane being who spoke."

The jury at once saw the insanity of motive and deed. And so it must be with the psychological expert in making up his judgment in these cases. Sexual perversion is not necessarily insanity, though it may be, and often is a part of it. It may be the beginning and may lead to it, and it may be and is often the end of it. It is a perversion of the natural feeling, of the sexual sense or instinct. It is neuropathic perversion, dependent on neurotic degeneracy, involving the brain, and the psychopathic instability of insanity may follow the morbid perversion of feeling, passing into delusive speech and conduct based upon it, disharmonizing the individual

with his normal nature and surroundings. Then he or she is insane. The perverted feeling then becomes more than a mere morbid perception. It passes into a *wrong conception* of the mind, which is delusion. It biases and controls speech and conduct so that the individual no longer adapts himself or herself to the restraints and demands of propriety, or harmonizes with healthy nature or natural and proper environment. The victim is then insane. His perverted feelings and impulsions dominate his mind and will. The perversion reaches the *ego*. The insane motive of this murder is apparent.

That sexual perversion is not necessarily mental disease may be proven not only by analysis of the numerous cases wherein the perverted feeling is accompanied with psychical resistance, shame and regret, but instances of the pervert practices among whole tribes like those of the Pueblo Indians with their "mujerados," described by Hammond, and the "botes" and "burdachs" of the Montana and Washington Indians, as described by Dr A. B. Holder, cited by Kiernan ("Responsibility in Sexual Perversion," in a paper before the Chicago Medical Society, March, 1892.)

In the study of this subject mere perversities of the sexual act practiced from various rational but debased motives, must not be confounded with organic perversity of impulse and conduct. The latter only is real disease; the other is only vice. The individuality of the person, the family and personal history, the violation of the proprieties, the existence of a diseased state of the brain and nervous system, the impulsion or deliberation, the motives and the question of disease are always to be studied in every question of perversity or perversion. A change of character may often be noted in true neuropathic perverts. Impulsions long fought against and resisted come finally to dominate the character, and the unfortunate individual becomes, like other insane persons, out of harmony with his surroundings and natural character, whereas the vicious

pervert has *learned* his dirty tricks, has rational motives in their performance (filthy lucre often) and has ever been a willing victim. He neither loves, nor dies for, nor kills, the object of his love. Depravity may make a business of vice and religion, as in the Temples of Venus and the Gardens of Phallus.

Hammond's description of the Zuni "mujerado" and the practices connected with this sexual pervert may be properly placed here: *

> The Pueblo Indians are in the habit of selecting some one male from among those living in a village and rendering him sexually impotent, reserving him at the same time for pederastic purposes. This person is called a mujerado, a corruption probably of the Spanish word mujeriego, which signifies feminine or womanish. There is no such word in Spanish as mujerado; but if there were, it would, according to the construction of the language, mean "womaned," or "made like a woman." A mujerado is an essential person in the saturnalia or orgies in which these Indians, like the Ancient Greeks, Egyptians and other nations indulge. He is the chief passive agent in the pederastic ceremonies, which form so important a part in the performance. * * * For the making of the mujerado one of the most virile men is selected, and the act of masturbation is performed upon him many times every day; at the same time he is made to ride almost continuously on horseback. From over-excitement comes abolition of the orgasm, the organs atrophy, the temperature changes, and he becomes assimilated with the female sex, perhaps at first with reluctance, but finally with entire complaisance and assent.

Sanity in a savage may be lunacy in a civilized being. On this and kindred practices Kiernan remarks:

> The influence of old religious practices long persists after the basis of these has disappeared. Such practices reappear at the seats of old Græco-Roman and Greek colonies in France, Germany, Italy and elsewhere. The Zuni "mujerado" is hence not the evidence of either immorality or insanity it would be in an Anglo-Saxon race.

The Scythian *Enares* of Herodotus or the *anandrii* of Hippocrates, whose condition was so well explained by the skeptic Father of Physic, were sexual perverts whose impotency was caused by similar natural cause to that which weakened and destroyed the power of their

* *Journal of Nervous and Mental Diseases*, 1882.

legs. They were sexually weak and womanly, not from the retributive vengeance of Venus, whose temple they had pillaged at Ascalon, but from the long and unremitting marches in the saddle with their legs unstirruped. According to Hippocrates these Scythians wore breeches and passed the quarter part of their time on horseback with their limbs hanging without support, and "the disease attacked the rich and not the lower classes." The noble and powerful were its chief victims, "because they go much on horseback, while the poor do not." "These infirmities are wide spread among the Scythians, who are not the most impotent of men." Hippocrates himself, however, drew a wrong conclusion respecting the influence of the cutting of the veins behind the ear in causing this sexual impotency.

The changes in character that take place in these perverts are the physiological results of lost virility, and the lost virility results from natural causes. The orgies and tribal rites associated with these sexual perverts were in some instances the result of delusive misconceptions as to the significance of the fact, but not the insane delusion of disease, either on the part of the individual or tribe. The same is probably the true *raison d'etre* for the conduct of the nomadic Nogays or Mongutays of the Caucasus who, as they become old or sick, lose their beard and their sexual feeling, don the dress of women and thereafter live apart from their own sex and in the society of women exclusively.

We have given the public opinion on the subject of Alice Mitchell's mental condition. The following summary by Dr. A. B. Holder, of Memphis, Tennessee, gives the points on which the medical experts based their opinion that this erotic or sexual pervert was insane:*

1. Puerperal insanity of the mother, before and at the birth of Alice (she was several months in an asylum) and insanity of uncles.

2. Her boyish tendencies in girlhood, indifference to

* *Vide Medical Fortnightly*, August 15th, 1892.

young men's company, and general peculiarities, headache, etc.; her lack of mental development, seeming five years younger than her true age.

3. Her intense and peculiar affection for Freda Ward and her earnestness in the irrational idea that she could marry Freda.

4. Her murder of Freda, its cause and manner.

5. Her words and manner when speaking of Freda and of the murder.

These points are all presented in the history we have given of this remarkable case.

Per contra, we give an editorial extract from the *New York Medical Record*, in which the distinguished editor boldly cuts the Gordian neurotic knot, which alienists have so long been seeking to untie, with a temerity that settles the subject for him, perhaps, but not for the writer of this paper. It is a judicial finding, not an editorial *fiat*, that we now want. It is to unravel, not simply to summarily cut through with the scalpel of medical editorial dictum that this inquiry into these singular cases is made. All are peculiar! Some are insane! We would know who among the number, and when they are insane, and who simply are peculiar, yet responsible.

To the alienist the question, as in moral insanity and other forms of affective mental aberration, of differentiation of disease and depravity, often causes profound hesitation and sends him in search of the true data of alienism for sometimes even an uncertain decision.

Dr. Shrady says:*

> The young woman was afflicted with an affection which Science, with a big S, calls Psychopathia Sexualis, and pronounces the subject a victim of a perverted sexual instinct. The pervert in this case attached herself to a Sapphic friend, whom she killed one day in a fit of jealous fury. On trial, the defense of insanity was made. The medical experts were, we believe, unanimous in pronouncing the case one of a primary degenerative insanity, and the jury brought in a verdict of insanity.
>
> We do not wish to contradict the combined testimony of so many alienists with reputations evidently very high in Memphis. Technically,

* *New York Medical Record*, August 13th, 1892.

perhaps, the girl was best considered insane; but we cannot avoid believing that if this alleged lunatic had been treated for worms, leucorrhea, constipation, or some other of the frequent mechanical excitants of unhealthy sexual desire, or if she had been taken in hand early by those in authority and received a course of bread and water and, perhaps, some strong corporeal applications, she would not have become a Lesbian lover or a murderess. (Possibly, but this girl did become so and she was insane).

There is no function easier to control or to corrupt than the sexual. While some sexual perverts are born so, the majority are not, but form their habits through gradual vicious indulgence. Nearly all are amenable to moral influences, that is to say, to rewards and punishments. The sexual pervert may be technically insane, but he or she is legally responsible and should be so held. (Not if the motive of murder proves, as in this case, the insanity of the deed).

Alienism does not say that all psychopathia sexualis is insanity. It modestly and cautiously inquires how much of insanity there may be in any given case of sexual aberration, and in determining the question applies the datum of alienism—the rule of departure from natural thought, feeling or action, based upon disease perverting the brain and mind.

In Kiernan's contribution to our subject, to which we have already referred, another homicide resulting from this perverted passion, is cited in the person of Miss D., a young lady of masculine taste, who, in 1878, "loved another young lady of Pocomoke City, Maryland. An attempt was made to break off the relationship, and an engagement was entered into with a young man, whereupon Miss D. shot her 'lover' dead. She was tried and found guilty of 'manslaughter in heat of passion.'"

Parent-Duchatelet, in his work on "Prostitution," gives at least one example of female love, jealousy and bloody violence towards another female, somewhat like the case just cited, and Krausshold records the instance of another violent Lesbian lover whose passion passed into the insane delusion of being with child by the woman she loved, while Mantagazza gives several instances of actual marriage as man and wife between women.

Scattered through the literature, especially through

that of legal medicine and psychiatry, are to be found instances of the most singular forms of this insanity of passion, but the true psychology of love and lust and the psychopathology and psychiatry of the sexual passion have yet to be written. Many inexplicable features of erotic perversion and psychopathia sexualis remain to the student of mental and moral science.

As we are about to conclude this paper, a case which may yet prove another *cas celebre* is recorded in the public prints:

Two girls are arrested in the streets of a western city (Indianapolis, June 27th), whose erotopathia simulates that of Alice Mitchell and Freda Ward, without, thus far, the tragic ending of the latter. Their names are given as Delia Perkins and Ida Preston. They had run away from home together because of their love for each other. Delia had cut off her hair and offered it for sale in order that she might obtain money on which to help defray the joint expenses of herself and the loved Ida. When Delia's step-father was summoned by the Chief of Police to come for his run-away daughter, she threatened to kill him, and when he came treated him coldly. To her step-father's importunities to go back home with him she only finally agreed on promise of being permitted to see Ida whenever she should desire to, imprinting burning kisses upon the cheeks and lips of the paramour of her own sex on parting. These two devoted girls had been together almost constantly since their departure from home and they had not been in the company of gentlemen. The intense and active passion seemed to be on the part of Delia, Ida being reported as regarding the matter "as a huge joke." When Delia was returned home the following colloquy took place with her mother (now Mrs. Mendenhall):

MOTHER: "You will not run away again, will you?"
DELIA: "Not if you let me go with Ida."
MOTHER: "That I will not do."

DELIA: "Then I will kill myself and you will be responsible."

MOTHER: "Don't say that. We will try to make you happy and you must try to forget all about Ida. I can't understand why you do not forget this foolish fancy and fall in love with a man and marry him."

DELIA: I do not care for the best man that ever walked, and never will. Ida is the only one I ever loved and I will continue to love her until I die, and if we are not allowed to go together *I will kill myself and her, too.*"

Miss Perkins told the reporter that she had not left home because she had been mistreated, but because of her love for Ida Preston. "My parents refused to let me go with Ida," said she, "and I decided to be with Ida, let the consequences be what they might."

Miss Preston stated that she had been met in the street by Miss Perkins; that the latter said she was tired of staying at home and said she was going to leave.

"I didn't want to leave home," said Miss Preston, "but Delia told me she loved me so dearly that if I did not consent to go with her she would kill herself and me, too. I like the girl, but don't believe I care as much for her as she does for me."

It is obvious that the limits of an essay forbid us to introduce the many special forms of sexual vice or disease or to engage in specific discussion.

A diligent search for cases in the writings of Moreau, Tardeau, Marc, Caspar, Cullerre, Coffignon, Tarnowsky, and others mentioned in the text and Appendix, would suffice to show how futile any such attempt would be.

However, as we are only here concerned in finding the correct principle of mensuration and analysis for these singular psychical freaks—a mere reference to a few typical cases suffices our purpose. A feature of most of the undoubtedly insane is the threat to kill the loved one or attempted murder, and threaten or attempt suicide.

Having thus as delicately dealt with this indelicate subject as its nature would permit, a subject which the perversity

of neuropathic organism has projected upon the field of scientific adjudication, I offer for your distinguished consideration the following propositions as legitimate conclusions from the facts set forth in this paper and in all other literature germane to our subject, in conclusion, we think the following are sustained or are sustainable from the present or more extensive study of this subject :

1. Morbid erotism presents both normal and abnormal psychological aspects. It, therefore, presents a voluntary deviation from the ordinary and natural indulgence of the genesic instinct—the normal, but immoral psychology of the eroto-sexual propensity, and instinctive, inherent, organic, dominant and often resistless involuntary perversions of this passion; the latter being the true abnormal and organically unnatural sexual perversion, the reverse, or contrary sexual instinct. This is the psychiatrical aspect of the subject, the one that most concerns us as alienists and neurologists.

2. Love and the genesic sense are not one, as is shown in the antedating of love to the appearance of the sexual feeling, in the developmental period up to puberty and its survival beyond the menstrual climacteric in women.

In the organic evolution of the individual, love antedates the birth and survives the decay of the sexual feeling, though it is intensified or diminished or otherwise modified or influenced by sexual states.

3. The duty of the hour is to search out the complicating neurological and neuropathic factors, and the predetermining neuropathic conditions, the neurology and neuriatry, immediate and ancestral, of these unique morbid and unnatural eroto-genesic perversions; to weigh in conjunction the potentialities of physical or psychical environment, and determine as satisfactorily as we may, in the light of clinical and historic facts and physiological and pathological states, the true mental status of the eroto-sexual pervert with regard to :

a. Responsibility to law with reference to specific perversions and ordinary crimes growing out of the erotogenesic passion.

b. Social status of sexual perverts.

c. Substitutive acts, manustupration, body contact, incest, bestiality, etc., are not always to be classed as morbid perversions, but as purely immoral acts.

d. In every inquiry the line should be drawn between morbid erotism, which is either an eroto-genesic perversion of pure Platonic love without genesiac concomitants and perverted lusts or pure organic unrestrained, unregulated licentiousness, dissociated from love, or in which love is abeyant or insignificant and secondary.

e. The conclusion of the matter is, that we are confronted in the study of this subject with conditions which are morbid, organically neuropathic and beyond the governing influence of volition, and *per contra*, with other conditions which, while they may in a certain sense be organic impulsions, are yet within the range of normal volitional control.

To the latter class ordinarily belongs rape, incest, bestiality and other unnatural crimes, the so-called fetishes and manustuprates, while to the former belong the true morbid erotics, or "conträre sexual empfindungen," the urnings, the masochists, sadists, etc.

Medical science must study to determine for society and for the State, what is restrainable and vicious, and what are the morbid and resistless organic impulsions of these *bizarre* eroto-sexual states, viz., the true sexual insanities or psychoneuropathic perversions.

4. This inquiry involves a study of hystero-erotic attachments and aversions, erotic trances, ecstasies, beatitudes, divine amours, immaculate conceptions, etc., as well as the true conträre sexual empfindung or psychopathia sexualis. It involves also certain morbid erotic perversions sometimes observed in epileptically insane females, such as vaginal mutilation with glass, pins and needles inter vaginum, etc., epileptic and neurasthenic

exhibitions, etc., during a psychical equivalent. We include all under erotopathia.

In every study of morbid erotism the distinction between love and lust should be sharply drawn, as between healthy erotism and perverted or debased sexual passion. This is necessary to a proper understanding of those historical and every-day recorded instances of pure but perverted Platonic affection and those oft recurring and startling reversions of sexual love into murderous hate and passion, so often chronicled in the public press. The excesses of Heliogabulus and Hierocles, the Lesbian love, the *odi et amo* of Catullus, the Grecian youth defiling the statue of cupid in the temple of Delphi and those horrible Artusian *libidos* of later date, whose morbid *vita sexualis* feeds, like the tiger's rage, on blood, require of us critical psychological analysis.

These are to be compared and differentiated from the unrestrained, but restrainable excesses of satyriacs and courtesans. There are Theodora's and male Satyrs in human form in our day, as in the days of ancient Rome, whose excesses cannot be extenuated on the charitable plea of disease.

While science should cast the mantle of charity over morbid impulsions yielded to in resistless psychopathic states, it must draw the line between similar impulsions (depraved and but slightly, if at all, morbid) cultivated and gratified in normal psychical conditions. It must separate disease from depravity of mind, and herein lies the difficulty of our subject.

The question of crime and insanity, often difficult to solve, devolves upon us as medico-jurists to determine from known and yet to be acquired psychologic and psychiatric data.

The subject is primarily, neither one of sentiment or morals exclusively, but mainly one of psychiatry, to the study of which the data of alienism and psychology should be rigidly applied in all questions of medical, moral and forensic inquiry.

Finally and fortunately, something, and in some instances, much, may be done for these victims of *libido morbosus* by treatment. Sexual and psychical erot o-erethism may be subdued, the mind and feelings turned back into normal channels, the homo and hetero sexual, changed into beings of natural erotic inclination, with normal impulsions and regulated restraint, by a suitable hygiene and therapy; medical, hypnotic and in some cases surgical remedial treatment is hopeful of curative results in acquired sexual perversion, but only of repressive results in hereditary sexual perverts.

Society, organized into government, for the better security of person and property and personal and collective happiness, is specially concerned in the maintenance of chastity and morals. Personal and collective happiness depend upon this. The State, therefore, as Krafft-Ebing insists, cannot be too careful as a protector of morality in the struggle against immorality, for sexual crimes are on the increase in our modern civilization, as shown by the statistics of Lombroso and Caspar, to which Krafft-Ebing refers, and by the startling records of the public press. Considerations of psychical sanitation demand alert attention to this subject from physicist, moralist and jurist. The moral pestilence is in our midst. Sodom and Gomorrah are revived and surpassed.

Law, ignoring psychiatry and dealing violently with some flagrant forms of sexual vice, punishes the criminal as a wholly responsible being (but temporarily), and allows him to return and pollute society, whereas, psychiatric science, knowing how deeply laid these sexual perversions may be in degenerate nerve element, which law cannot correct, asks for their victim's perpetual sequestration from society and a radical asexualizing surgical procedure, such as the father of Heloise visited on Abelard

Inspired only by the spirit of vengeance, Law protects society by punishing the criminal, while Medicine would mercifully protect both society and the maimed victim of a sexually and mentally degenerate organism, whose acts

are often as resistless as the mandates of a tyrant, because they spring from the despotically-perverted cell life of a nervous system as badly endowed by pathological heritage as that of the average epileptic and whose life is often equally as explosive. Nevertheless, as Krafft-Ebing truly states, the nature of these acts can never in themselves determine a decision as to whether they lie within the limits of mental pathology or mental physiology, and while most of these cases, to the honor of our humanity, fall within the scope of disease, we must here state again, in the language of the author just quoted, that "it devolves on psychiatry to show in any given case before the law that the perverse expression of the sexual feeling is founded in a pathological condition of the organism."

APPENDIX.

While it has not been deemed necessary for our purpose to go into farther detail of the varieties of sexual perversion, some of them being disgusting even to the cold vision of the scientific student of psychic perversion, yet the physician and the jurist cannot ignore them any more than they can refuse to become familiar with the clinical features of foul disease or the details of revolting crime. Following are Workman's cases:

CASE I.—A small and handsome woman, aged 39, of delicate structure, the mother of four children, was admitted into the asylum in 1860. Her insanity was of a very fervid religious type. She had escaped from

home and was found after considerable search, with her younger child, in the church to which she belonged. She manifested well-marked hysterical aberration. I found her always too desirous of prolonging conversation and I took care to preserve a duly cool demeanor towards her. In four and a half months she had apparently regained mental integrity and was taken home by her husband. She continued well for nearly two years, when her insanity recurred in a very aggravated form. She evinced very warm, and I believe sincere, religious feeling. She was a constant and devout reader of the scriptures and of select religious books, and so long as she continued able to attend, she never missed divine service. The same tendency to prolonged and rather close conversation was again presented; she was the subject of intense hysteric seizures, in which the somatic movements clearly indicated that the uterine system was deeply implicated.

At the end of four years this poor woman was released from her infirmities. The *post-mortem* examination gave revelations of serious morbid changes in the chest, abdomen and pelvis, while the brain was found unaffected. The lungs contained numerous cheesy nodules and showed old, firm costal adhesions. The abdomen contained about a gallon of greenish fluid. The peritoneum was thickened and coated with a green cheesy deposit. The intestines were similarly coated and were glued together in an inextricable mass. Both ovaries were much enlarged and were transformed into cheesy matter. The uterus was covered with the general cheesy coating and its texture was much changed.

It might be difficult to decide in what part diseased action had had its commencement in this case. The uterus and ovaries may have been the primary seat or they may have been but simultaneous sharers in the general deterioration; but from their abnormal condition we may regard the salient manifestations of the insanity as having sprung. I was informed by her former medical attendant that he had found the erotic tendency a serious difficulty to deal with.

Case II.—Some time previous to the preceding case, another, of similar, but more aggravated character, came under my care. The patient was 44 years old and had borne eleven children. She was spoken of by her relig-

ious pastor in the higest terms of commendation. Her medical attendant designated her malady as nymphomania, and it may suffice for me to say here that the manifestations justified the designation. This womans' religious sentíment, notwithstanding her indomitable sexual tendency, was not obliterated. It was indeed painful to witness the incongruous coincidence. She died three years and a quarter after her admission.

The most remarkable facts exhibited by the *post-mortem* were the following: Hepatization to some extent of both lungs and numerous pleuritic adhesions. Several tubercles beneath the peritoneal coat of the ilium. An unusual fulness and rotundity were observed at the promontory of the sacrum. On removing the vessels and cellular tissue the enlargement was found to extend upwards along the sides of the fifth, fourth and third lumbar vertebræ. Fluctuation was quite perceptible. On opening the dilated membranes a quantity of creamy pus flowed out.

The inter-vertebral cartilages appeared completely dissolved away and the bony structure was so softened that the scalpel easily penetrated it. The uterus was retroverted so fixedly, that when forced into the normal position it instantly, on being let go, retook its retroverted state.

Case III.—An interesting and pious young lady was very assiduously, if not skillfully, treated by her medical attendant, who had the misfortune to be very attractive. He diagnosed, perhaps correctly, uterine trouble, and being a specialist in that line of practice, he adopted the treatment which he considered indicated. It had, however, been necessary in order to arrive at exact knowledge of the state of the affected organ, that a certain process of examination, not very compatible with virgin delicacy, should be instituted, and a repetition of this process was called for at each appliance of the topical remedy employed. All this must or should have been very irksome to the physician and very distressing to the patient, but custom reconciles us to many inconveniences. Had he better understood the peculiar susceptibility of women of fine-toned nervous temperament and religious emotionality, suffering under uterine disturbance, he would have made his visits as short and unfrequent as at all possible. Instead of so doing, he came often and remained long,

cheering his patient with lively and kind conversation. She had religious anxieties, and doubtless he assumed the supplementary function of spiritual comforter. The actual state of affairs was, she was drifting into insanity, and he did not soon enough make the discovery. She had, despite the topical annoyances, fallen grievously in love with him and a severance had to take place. I was subsequently consulted. There was no doubt of her insanity, but her friends ascribed the malady to disappointed affection, and the unlucky uterine specialist now rests under their strong displeasure. I have since seen a case, in which, from similar inadvertency, the same gentleman, in the management of a religious young lady, got into a similar predicament, but without the interposition of specular manipulation. A few more mistakes may bring him light.

CASE IV.—The next case was that of a preacher, who, at the time of the development of his insanity, was very actively engaged in the work of a revival. He was newly married, and had for several weeks preached, in different places, three times daily.

He was brought to the asylum in a state of utter frenzy, and continued so for three weeks. The fact of sexual excitation was too patent to be overlooked, and it required not the information given me by his friends to satisfy me of the association which had subsisted between his religious fervor and excessive sexual indulgence. He made a good recovery and became a moderate man.

Complements of these cases in the females are doubtless well known to our gynecological friends, and doubtless too well and too painfully so to some of the younger and less cautious and experienced wielders of the speculum. But gynecology, like psychiatry, lives and learns.

The following cases, abstracted from an article on "Perversion of the Sexual Instinct" (Report of cases, by Prof. Von Krafft-Ebing, which appears in the ALIENIST AND NEUROLOGIST, Vol. IX., No. 4), will serve as sample records. His book, "Psychopathia Sexualis," which has since been well translated by Dr. Chaddock of St. Louis, has a far greater number and in far greater variety:

Case I.—Mr. X., merchant, 38 years old, residing at the time in America, disposition feminine, fond of music and literature, hates noise, disturbance and obscenity. As a child he associated constantly with girls and played with dolls and toy kitchens. Liked to dress in girl's clothing; when a student took no part in the gymnasium; delighted to help his mother with her household duties. At the age of thirteen acquired a fondness for one of his own sex. At school he always had a lover and was horribly jealous of any girl or school-mate towards whom his lover showed any preference. His delight was to kiss him. Had desire towards him, but propriety overcame it. Until he was twenty-eight years of age was free from onanism, pederasty or involuntary emissions.

While still a young man he had a serious love affair with a sophomore, who returned his love with the enthusiastic friendship of a boy only, would kiss him and have erections with him. He raved over poetry and literature, and grieved when forced to be absent from him. The young ladies of the house where he lived had no such effect on him. He associated with them only in a friendly but entirely dispassionate manner.

Other Platonic love affairs with young men followed, but he realized his unnatural condition and was depressed over the knowledge of it. He never found in the society of beautiful women that invigoration of the mental powers which is commonly the case, but did find it among fascinating young men. He preferred to associate with married women or entirely innocent and disingenuous young ladies. Every attempt to draw him into the matrimonial net disgusted him. He sought the companionship of others like himself. One evening in the castle garden at X., where those constituted like himself were accustomed to seek and find each other, he met a man who powerfully excited his sexual feelings, * * * * * * * * * * He would go often to the park and sought similar places in other cities. He formed an acquaintance with a young man who was eccentric, romantic, frivolous and without means, who obtained complete control over him and held him as if he were his legal wife. He was obliged to take him into business. Scenes of jealousy followed. Repeated attempts at suicide were made by this new acquaintance. He suffered terribly by reason of the jealousy, tyranny, obstinacy and brutality of his new acquaintance. When jealous he

would be beaten and threatened with betrayal of his secret to the authorities. After this new-made lover had cost him 10,000 francs and a new attempt at extortion had failed, he was denounced to the police, arrested and charged with having sexual relations with his accuser, who was equally guilty, and condemned to imprisonment. This destroyed his social position, brought his family to sorrow and shame, and the friends who had heretofore held him in high esteem now abandoned him with horror and disgust. * * * * * * *

The manner of satisfying his sexual desires was not buggery, but a sort of onanism, produced by handling the genitals of another, whereby a healthy but not extremely exciting flow of semen would take place, after which he would feel refreshed and relieved. A bright, fun-loving young lady, who, as a woman, made no erotic impression on him, dressed herself in the uniform of an officer, with mustache, etc., and thus excited a sexual passion towards her.

A friend once advised him to marry and dress his wife in male attire. This pervert knew of a case in Geneva where an admirable attachment between two men like himself had existed for seven years.

X. confesses that their "loves bear as fair and noble flowers, incite to as praiseworthy efforts as does the love of any man for the woman of his affections. There are the same sacrifices, the same joy in abnegation, even to the laying down of life, the same pain, the same sorrow and happiness as with men of ordinary natures."

X. is described as of perfect physical build, with nothing remarkable as regards his sexual organs. His walk and voice are masculine.

Case II.—Count Y., 34 years of age, German, bachelor, consulted with Krafft-Ebing in 1882, for nervous debility and abnormal sexual impulses.

He was of muscular, masculine appearance, and "with the exception of neuropathic eyes" is in no way outwardly remarkable. His mother was a woman of a highly organized, nervous, passionate nature, whose mother was extremely eccentric. His father was somewhat mentally deficient. Two sisters are apparently of normal intellectual qualities and of an entirely normal physical organization.

The patient appears as an average man, somewhat

overstrung, poetically inclined and of fine feeling. As far back as he can remember he has had erections and sexual desires. In childhood he was attracted as much towards boys as girls, but towards the latter in an entirely Platonic manner, while towards the former he was sensually excited.

He played soldier and preferred the company of boys. In his youth his sexual desires tended still more towards males, and he preferred to dance with boys. At twenty-one years of age the itching of a flea-bite led to masturbation, which he practiced for several years and became highly nervous in consequence, but later abandoned the vice.

At twenty-two he made an attempt at copulation, which disgusted him. He made no further attempts. A woman's breast seemed to him lacking in symmetry, and reminded him of the udder of a cow. Masturbation performed on him, however, by a woman aroused lively erections and sensual gratification. Afterwards his perverse sexual desires toward the other sex took a new turn, through voluptuous dreams, in which the woman would beat him and thus excite sexual desires. He hired a courtesan toward whom he felt no æsthetic or intellectual interest, who must stamp on him with her feet and strike him with a whip to arouse his passions to the highest degree. Then he would lick the woman's foot. The foot of a woman or of a boy is the only thing that sexually excited him. With that his sexual excitement would reach its height, and an emission would take place, followed by a sense of degradation, sexual satisfaction, and disgust.

His genuine sexual feeling, however, attracts him to those of his own sex.

This patient does not feel unhappy in his perverted sexual instincts, but deplores the fact that social customs deny him the highest sexual enjoyment. His practices with woman are but unsatisfactory make-shifts. His erotic dreams are of intercourse with boys and sometimes relate to beatings at the hands of women. The patient is hypospadiacal. His nervous affections are the common form of cerebral and spinal neurasthenia with agoraphobia, fearfulness, headache, spinal irritation with hypochondriacal paroxysms.

This sexual pervert married a lady who attracted him through her qualities of mind and who, on account of female troubles and probably weakened sexual instincts,

made no demand on his sexual qualtities. Patient married as he says, "to satisfy society," the mental qualities of the lady being congenial, but he wishes for a childless marriage that his pathological peculiarities may die with him and not be a curse upon future generations.

Case III.—Mr. Z., 36 years of age, bachelor, of high social standing; father was neuropathic and eccentric; mother nervous; brother showed signs of sexual perversion. Of ten brothers and sisters one sister is psychologically abnormal, two others dislike men and love women.

As a child, was weak-limbed and of a nervous organization, fond of feminine work and play, no fondness for boys' games or hunting, and was laughed at and scolded for his feminine ways. At the Institute he acquired the practice of onanism. At the age of thirteen he formed a burning attachment for an elderly officer. From that time on he only cared for those of his own sex and then not for the young, but for those of riper years and robust form. Such men facinated him, "women were no more to him than porcelain pictures." He "could see no beauty save in the male form and thought the bosoms and wide hips of women were unæsthetic and ungainly." At the galleries it was only male statues that pleased him; at the circus, male performers. At sixteen he became desirous of looking at male genitals. After he was grown up his comrades took him to a brothel. He could not perform the act of coition from sheer disgust. Manustupration by woman produced ejaculation accompanied by sexual gratification. He felt immeasurably unhappy and melancholic when his family tried to draw him into a marriage, and felt as relieved from imprisonment when the lady married another.

He only finds happiness by association with men. For many years he had suffered from neurasthenia, with severe headache, sleeplessness, genital irritation, hypochondriacal symptoms, etc., all of which he ascribed to the fact that he had been unable to satisfy his sexual desires, and to onanism which he had practiced as a substitute.

Sexual satisfaction was obtained by kisses and embraces with a man, especially if the man lay on him. Every ten or twelve days he would experience these desires, and if he could not satisfy them he became

nervous and irritable and had all sorts of nervous derangements.

He felt in fact like a woman in the sexual act. His highest idea of pleasure was passive pederasty, and in Italy he once attempted it, but disgust prevented him from completing it; it reminded him too much of coition. His highest happiness would be a sort of marriage with a beloved being of the male sex. The few erotic dreams which he experienced had for their subject men. He was unhappy, not only because of his abnormal sexual position and the resultant nervous disorder, but because he feared insanity as a result of his troubles. The constant fear that his secret will be discovered and his social position thereby destroyed makes his whole life miserable. He dare not be a father lest he should bequeath to his children his own abnormal nature.

Patient is an intellectual appearing man, of strong masculine build, with heavy beard, showing no abnormal appearance and having nothing feminine about him, either in his manner or his dress. An expert would remark the extremely neuropathic eye. The nose is unusually large. The upper teeth are somewhat decayed. The skull measures 53 centimeters. The pelvis and genitals are normal.

Case IV.—Herr Von Z., a Pole, age 51, neurasthenic since seventeen. Mother was not mentally normal. She hated her children and loved her dogs. At Cadet School he acquired the practice of onanism. He developed normally, sexually and otherwise, enjoyed sexual intercourse with women until he was twenty-five years of age, married a congenial lady, acquired at twenty-six serious nervous complaints and developed a fondness for those of his own sex. He was compromised in a treasonable plot and sentenced to five years in Siberia. There his condition was aggravated as the result of continued masturbation. When released at the age of 35, he was suffering from cerebral and spinal asthenia, dyspepsia, hypochondria, trembling morbid anxiety, spinal irritation, nocturnal emissions, etc. He then sought relief at the watering-places and medicinal springs, but failed to obtain it. His abnormal sexual feelings were in no way changed. He lived mostly separate from his wife, for whose mental qualities he had a high regard but toward whom, as

a woman, he was as indifferent as toward all other women. His otherwise pronounced fondness for those of his own sex was entirely Platonic. He was satisfied with their friendship and with hearty kisses and embraces. Whatever lascivious dreams he had, had those of his own sex for their subjects. While awake, too, the sight of well-formed handsome men would cause erections and ejaculations, while the most beautiful women had no effect upon him. At times of great excitement he would have erections at the sight of even male statues. At the circus or in the ballet it was only the men who interested him. He considered his perverted taste as a physical malady, without being rendered unhappy by it.

A course of common faradization restored this man to his normal sexual condition.

Case V.—Herr Y. Z., 29 years old, a real estate owner in Russian Poland. Grandfather had melancholia and died suddenly at forty-seven. Mother neuropathic, of a neuropathic family. Brother committed suicide, a cousin showed perverted sexual instincts.

For generations the family has intermarried. The patient has had scrofula and headache, and a cerebral injury. At thirteen he began onanism. A few years later he acquired severe cerebro-spinal neurasthenia with irritable genital weakness and frequent pollutions. His nervous troubles have increased and hypochondriacal symptoms have appeared, with delusions of persecution. Has since childhood had a Platonic fondness towards males, and since the age of nine years had frequently been in love with them. At the age of twenty he began to feel a longing for sexual connection with men—old men of about sixty. The female sex had no attractions for him; never realized any passion for sexual commerce with them. In order to alleviate the effects of self-pollution, he had at times attempted, under medical advice, to hold sexual intercourse, but he found himself impotent. His pleasure was only in intimacy with men. In his weak sexual condition a kiss or an embrace was sufficient to produce an erection and ejaculation; later he had become so excitable that the sympathetic pressure of a man's hand was followed by an emission. He found himself therefore compelled to withdraw from the society of men.

At Gratz he formed a Platonic attachment for a student

and a bath attendant. At Venice he fell in love with a nineteen-year-old youth and made him his mistress. Their sexual intimacy consisted in kisses, embraces and the handling of the other's genitals. He never went as far as pederasty. He formed other similar attachments, caused a scandal in the hotel and was obliged to leave Italy. So long as he could satisfy his sexual desires the neurasthenic symptoms disappeared entirely and the delusions regarding persecutions remained dormant. When he returned home where he could not satisfy his sexual desires there was a recurrence of neurasthenia and delusions, which finally obliged his removal to an insane asylum.

Herr Z. is of a muscular and wholly masculine appearance. The left testicle is not descended. Otherwise the genitals are well developed; hair and beard abundant; voice manly; demeanor shy, but in no way offensive.

Case VI.—Miss X., 38 years old, had severe spinal irritation and chronic insomnia. Her mother was of a nervous organization, the rest of the family apparently healthy. Her sufferings dated from a fall upon her back received in 1872, which caused the patient a severe shock. In connection therewith there developed neurasthenic and hysterical symptoms, with severe spinal irritations and insomnia. Episodically there was hysterical paraplegia of eight months' duration, and instances of hysterical hallucinatory delirium with convulsions. In addition there were symptoms of morphinism.

The patient attracted attention by her clothing, features, man's hat, short hair, spectacles, gentleman's cravat and a sort of coat of male cut covering her woman's dress. She had coarse male features, a rough and very deep voice, and, with the exception of the bosom of a female and contour of the pelvis, looked more like a man in woman's clothing than like a woman. During all the time I had her under observation there were no signs of eroticism.

As a child she had fondness for horses and masculine pastimes, but never took any interest in feminine occupations. She later developed a taste for literature, and sought to fit herself for a teacher. She never enjoyed dancing, and the ballet had no interest for her. Her highest enjoyment was to go to the circus. Up to the time of her sickness in 1872, she had no particular fondness for persons of either sex. After this there developed

in her an attachment toward women, especially young women. She was never passionately aroused in her intimacy with them, but her friendship and self-sacrifices towards those she loved was boundless, while from that time on she had an abhorrence for men and male society. She had an offer of marriage in 1872 but refused it. She took a trip to a watering place and returned entirely changed sexually, and made use of expressions which implied that she would only associate with women, had love affairs with them and let fall insinuations that she was a man. While she was at the baths, in 1874, a young woman fell in love with her, thinking she was a man in woman's clothing. When this young lady afterwards married, Miss X. became very melancholy and complained of faithlessness. Her friends noticed that after her sickness she evinced a decided preference for male clothing and a masculine appearance, while before her illness she had been in no wise other than a womanly character, at least as regards her sexual feelings.

The patient was carrying on a purely Platonic love affair with a young woman and wrote her tender love-letters.

The following additional references to the literature may also aid the jurist and the medico-legal, neurological and psychiatric expert in the study of particular forms of this moral pestilence:

Hoffman* states that tribadism in places of imprisonment for prostitutes is frequent.

Andronico† found tribadism frequent in similar institutions in Italy.

Kiernan‡ found it relatively frequent among the female insane in the overcrowded (five patients to two beds) female wards of the Cook County Insane Hospital.

Lombroso§ states that tribadism has been far from infrequently observed in Italian insane hospitals. It is often introduced by nymphomaniacs, sexual perverts, pubescent lunatics, hysterics and imbeciles. The clitoris is often found enlarged in the degenerate and the pubescent.

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* *Lehrbuch der gericht Medizen.*

† *Arch. di Psich.*, Vol. III.

‡ *Jour. of Nerv. and Ment. Dis.*, 1888.

§ *Archivio di Psichiatria*, VI.

Tribadism is frequent in the Turkish harems. Sometimes it originates in the delectable tastes of the male owner.

Moll points out that tribadism may develop into sexual perversion through the association of the manipulator or manipulated with the orgasm.

Kern* takes the ground that the forensic relations of perverse sexual instincts should be determined by the individual in whom these are found rather than the perversion itself.

Lord Audley (Howels State Trials, 3, 401), found guilty of pederastic rape on his wife. Executed. He was a sexual pervert, but exhibited no other evidence of insanity.

Legrave† has reported a lad of degenerated parentage addicted from an early age to masturbation. At school pederasty was learned. He liked to dress in girl's clothing and play with dolls. He has at the age of sixteen his first attack of *grand mal.* He was sent to an insane hospital at seventeen.

Nana, of Zola's romance of that name, was a tribadist and far more jealous of Saten's relationship to other women than of any of her lovers.

Dr. L. B. Allen,‡ of Humboldt, Neb., reports the case of a donkey kept for breeding purposes, which was unable to copulate unless a can were present. Dr. Caton§ has reported similar cases among animals.

P.S.—I might have included in the context a record of a mild form of intermediate perversion in the person of one of my servants, a colored male creole, who has more womanly than manly attributes. He is five feet tall, slenderly built, has large, full eyes, round, symmetrical head, and rather broad hips. Though his mouth is encircled with a growth of short hair which he never disturbs with a razor, he delights in wearing his hair as long as it

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* Über die klinisch forensic Bedeutung des perversen sexual triebes.

† *Arch. de Neur.*, XI., 1886.

‡ *Medical Standard*, Vol. XIV.

§ *American Naturalist*, 1883.

will grow, and it is several inches long behind and not curly as it is in front. He wears by preference a woman's high-heeled gaiter button shoe, size 5½, and in the discharge of his household work, waiting on table, etc., he prefers a woman's long white apron, extending clear round his body, to any other form of apron, and wears a white jacket under it. He looks for all the world, when fixed up to his taste, like a woman from the chin downwards. His face is effeminate, his tastes for work are all that way, likewise his voice, though when strained in trying to sing it is often falsetto. He has a special fondness for ribbons, flowers and kid gloves, admiration for queensware and woman's dresses, keeps a picture of himself and a male friend but no female friend in his room, decorates the rocking-chair in his room with ribbon, is fond of perfumery, parts his hair in the middle, keeps his wife's clothing and has many things in his possession which are peculiar to women, and makes the impression of a woman about the house in his walk, his talk and his ways, has been married, but says women are frauds, yet in strange incongruity shows plainly in so many of his actions that he would have been a woman if he could.

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A Consideration of the Traumatic Neurosis, So-Called.

By Harold N. Moyer, M. D., Chicago,

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THERE is perhaps no more obscure chapter in pathology than that relating to the traumatic neurosis, nor one that has been more burdened with an unfortunate terminology. The difficulties in approaching this subject are by no means lessened by the medico-legal relations which many of these cases present, and which are prone to overshadow the purely medical questions involved.

Notwithstanding the polemicizing of more or less able writers, there stands out the significant fact that many organic and functional disturbances of the nervous system have their origin in traumatisms that are many times relatively insignificant, and often produce no solution of continuity of the surface, or appreciable alteration of the deeper lying tissues. This proposition will, we think, be generally admitted by almost all members of the profession. As to the exact nature of some of the changes produced by traumatism, their course and termination, there is a wide difference of opinion.

In discussing this subject, it is customary to begin with the contributions of Erichsen, who described peculiar, and as he thought, distinctive symptoms that often followed railway accidents and were not associated with demonstrable lesions. To these symptomatic groups he gave the term "spinal concussion," in accordance with his view that they were due to a transmisson of external violence to the spinal cord. The views of Erichsen met with prompt opposition; notably, Page entering a strong protest against his deductions. A careful review

of the controversial literature on this subject shows a practical unanimity on one point, namely, that traumatisms are competent to produce marked disturbance of the functions of the nervous system where there is no appreciable external lesion. The opinion that this was due to a transmitted vibratory jar impinging upon the spinal cord, was received with great doubt. The etiological element suggested by Erichsen in his term "spinal concussion," has been a great hindrance in the study of this subject, although views have been attributed to him that he never announced, such as a railway spine and other abominations. Readers seem to have overlooked the line on the title page of his monograph, "*Je raconté, je ne juge pas.*" Many writers recognizing the fundamental error in the term "spinal concussion," and the fact that there were often grave cerebral lesions associated with these conditions, have suggested other terms, such as "traumatic hysteria," "traumatic neurosis," and lastly, in consonance with the term "railway spine," we have the "railway brain."

Clevenger, recognizing the stumbling block in the term "spinal concussion," has named this symptom "Complex Erichsen's Disease," though it is not apparent exactly what advantage has been gained by the change. If we examine the symptomatology of Erichsen's disease, we shall find it exceedingly complicated; Clevenger, in his book, gives thirty-one more or less subjective phenomena associated with this disorder. He defines Erichsen's disease to be "a group of mainly subjective symptoms of a nervous and mental nature, sufficiently characteristic to enable it to be recognized as a traumatic neurosis, distinct from other traumatic neurosis with which it may or may not be associated. The most common cause of Erichsen's disease is a concussion of the spinal column, including its contents and nearest appendages."

According to this definition, it ought to be possible for us to affirm in a given case presenting this peculiar

symptom complex that a person had sustained a trauma. But this is exactly what we are not able to do. There are cases presenting the peculiar symptom grouping of Erichsen's disease who have never sustained any traumatism, and in whom as we have observed in one case, this disorder existed from early childhood. It was accompanied by pain in the back with restricted movements of the spine. Paræsthesiæ were present with exaggerated reflexes. The tapping of the tendons caused such a "shock" to the spine that the patient decided to discontinue the examination if this proceeding were again attempted. There were the tender spots along the spine with emotional depression and persistent insomnia. Now according to Clevenger, "the foundation, frame and roof of Erichsen's disease is the back pain and rigidity, the insomnia and emotional disturbance." When these symptoms occur without traumatism, we do not call them Erichsen's disease, but spinal neurasthenia. Wherein lies the necessity of this term? We all admit the necessity of terms covering symptom groups in which the pathology is obscure. In chorea we have a term that expresses a symptom group, in which we are still much in doubt as to whether it is of spinal or cerebral origin, and which has an etiology of wide range, but we do not divide up its terminology and call that form associated with rheumatism chorea, and another case dependent upon fright by a dog as the canine disease. Regarding spinal neurasthenia, Clevenger says, that in this disorder there is no fixation of the spine, disturbed sleep, pain on moving the back, emotionalism, etc. Let me say that our experience largely differs from Clevenger's, for we have frequently noted some or all of these symptoms in uncomplicated spinal neurasthenia.

In the chapter on "Electro-Diagnosis," Clevenger tells us that the electric current affords an infallible means of converting many subjective into objective phenomena. Though it is not quite apparent how this means will be of much value in establishing a symptom group

having back pain, rigidity, insomnia and emotional disturbance for its foundation.

It is not claimed in this paper that Erichsen's disease has no existence, that is, that the symptoms of spinal concussion, as he terms it, are not present. They occur not only in railroad cases and other forms of traumatism, whether or not there is a possible suit for damages. In our experience we have seen as pure types of concussion cases occurring after falls down a pair of stairs or off a step-ladder as we have ever seen presented in a railroad case. Spinal concussion is not a litigation disease, and perfectly pure types are found where no possible litigation can intrude. What we do claim is that it is misleading in the study of these cases to set up a type of disease having a peculiar etiological factor (concussion) in which the symptoms do not differ from other disturbances unassociated with such causes.

There is no doubt but that most any disturbance of the functions of the cord may be set up by a traumatism. We may have lateral sclerosis, tabes, transverse myelitis or meningitis, but these diseases do not lose their identity when caused by traumatism. Why, therefore, should symptoms of a purely functional character, having an origin in other than traumatism, be termed spinal neurasthenia, but of the same set of symptoms be called spinal concussion or Erichsen's disease when preceded by trauma?

We feel that we cannot urge this matter too strongly upon the attention of medical men. We believe that there is scarcely a single person within the sound of the reader's voice who has not been directly or indirectly connected with a suit at law, in which the chief grounds for damage has been a spinal injury. As time passes, this sort of litigation is becomming increasingly common, and the medico-legal relations of this class of injuries are assuming greater prominence every day. It is, therefore, increasingly important that we have better verbal defini-

tion, in these cases, that we may present the merits or demerits properly before our courts of law.

In examining these cases, and in our own classifications, we have omitted the term "spinal concussion" altogether, and as standing for a pathological entity, and have proceeded with the examination solely with a view of ascertaining the exact condition of the nervous system. They naturally divide themselves into injuries to the peripheral nerves and functional and organic diseases of the spinal cord, brain and sympathetic. Of course we may have mixed cases, but it is usually possible to separate the symptoms and refer them to their proper seat. Peripheral nerve injuries are almost always accompanied by a loss of power in the muscles supplied by the nerve and in a loss of sensation in the skin, to which it is distributed. The nerve may be completely paralyzed for a few days and regain its function in a comparatively short time. The blow on the nerve may set up an exceedingly slow inflammatory process in the nerve that may lead to atrophy of the muscles supplied by the nerve, or to the wasting of an entire extremity by extension of the inflammatory process. As a rule, if no changes are apparent in the muscles of a part six months after an injury, we can exclude damage to the peripheral nerve. So far as we know, peripheral nerve trouble is always organic, the nerves having but the single office of conduction; their functional disorders are practically *nil.*

Trumatisms of the spine are divisible into three great groups; those of a functional character, which may be generally named by the term "spinal neurasthenia." They are characterized by fixedness of the spinal segments, pain on pressure and on motion, a subjective sense of weakness in the extremities. It is this form of spinal disturbance to which the term "spinal concussion" has been so frequently and so misleadingly applied. It may or may not be associated with some of the organic lesions of the cord which compose the second group of spinal

injuries, and which includes all of the systematic and unsystematized organic lesions to which the cord is liable. The third group includes injuries such as strains of ligaments and muscles, as well as fractures of the bones composing the spinal column, and which may be followed by the varying symptoms of sapondylitis.

We do not claim that the diagnostic differentiation here attempted is easy in every case. In many it can only be made by time; frequently the pain will be followed months after injury by a deviation of the spinal segments, or organic changes in the cord will show themselves a long time after the primary injury. What we do claim, is that it is possible to make a thorough analysis of each case upon these lines within one year of the receipt of the injury, and that we can formulate a prognosis that shall be approximately correct, a thing that is impossible under the symptom grouping of Erichsen's disease or spinal concussion.

The classification of head injury cases is the same that is followed in the spinal. We have first the functional, which includes the cerebral type of neurasthenia, then the group accompanied by mental changes, and thirdly, those which include the organic disturbances, such as hemorrhage, etc. Lastly, the class in which there is rupture of the membranes or fracture of the bone. Perhaps the frequency of a certain class, namely, the epileptics, would entitle them to separate mention.

We had hoped to present a summary of over one hundred cases of traumatisms of the nervous system, in support of the classification adopted in this paper, but found that it would consume an unreasonable amount of time.

It is claimed that the classification here adopted will enable us to make an accurate estimate of the nature and extent of injuries that are now obscured by the misleading and objectionable terms "spinal concussion," "Erichsen's disease," and the "traumatic neurosis."

Address of the President of the Section on Neurology and Psychiatry of the First Pan-American Medical Congress.*

By C. H. Hughes, M. D., St. Louis, Mo.

COLLEAGUES OF THE CONTINENT:—I bid you cordial welcome. For the first time in the history of the world the medical profession of all the Americas meets fraternally for mutual work and words of counsel for the welfare of the North and South American medical profession and people.

In this Neurologic and Psychiatric Section, brothers, we also, for the first time, grasp the hand of fellowship. We heartily clasp hands with you and in our hearts we embrace you, with the prayer that nothing shall ever dissever the friendship between the Northern and Southern American profession now so auspiciously consummated. May the final hand-shake between the profession of the North and South American States never be permitted to take place. We want your friendship forever. So long as "earth grows a plant or sea rolls a wave," we pray that it may endure, growing closer and closer in ties of inseparable fraternity.

In our special departments of medical research and labor we have a common interest, and in every department of medical investigation and advance, our interests are likewise mutual. The sanitary welfare of all of the American States is alike. The same hygienic, therapeutic and pathologic problems press upon us all for solution; the medical discoveries of each one of these States redounds to the welfare of all the others.

To this end, therefore, we salute and welcome you, wishing you health and happiness, through a mutually

* Washington, D. C., September 5, 6, 7 and 8, 1893.

advanced and glorified medical profession, and in behalf of the Neurological Section of this great congress, I join you in the sentiment, "*America laudamus—viva Americana!*"

Before proceeding to the work before us, it may prove a source of pleasure and profit, and it certainly is flattering to our professional pride to note some of the neurological advances of our day and especially the contributions of neurology to general medicine and the consequent welfare of the world.

None of the many victories in the onward march of American medicine during the century now nearing its close, have contributed, or are destined yet to contribute, more to the happiness of mankind than the light which has been thrown by our researches on the nature and treatment of inebriety, dipsomania and chronic alcoholism and their neural sequelæ, especially multiple neuritis.

To a distinguished American physician, signer of that Declaration which gave a nation birth, Surgeon-General of the Continental Army and teacher of the Practice of Medicine in the first medical university founded in America, Dr. Benjamin Rush, the scientific world is indebted for having taught that inebriety is a disease. His followers, living in the Pan-American States, taking their cue from this distinguished pioneer medical *savant*, have pursued the study until the therapeutics of inebriety has become as successful as that of any other grave nervous disorder and its pathology as well understood, while medical philanthropy, following his advice,* has erected hospitals for the cure and care of its unfortunate victims, though, as yet, no monumental shaft mementoes, as it should, a nation's grateful memory of Benjamin Rush's noble work.

We record, also, with satisfaction scarcely exceeded by that we enjoy from contemplating the salvation of the inebriate, the successful cure of the opium habit and

* "Diseases of the Mind," 1812.

other kindred forms of baneful drug enslavement. Yet it has not been long since that once brilliant *litterateur*, De Quincy, himself enthralled, proclaimed in despair the "pangs of opium" and the "Illiad of woes" its enslaved victims hopelessly endured.

The opium fiend, as he is with cruel facetiousness so often called, need not be longer regarded as a hopeless wreck if the hand of charity will only conduct him within the pale of professional resource. This and alcoholism and all similar forms of nervous derangement are now treated successfully much like certain forms of mental aberration are—by change of environment, by therapeutic repression, including hypnotic support and reconstruction of the damaged and aberrantly-acting neuropsychic centers. This is another jewel medicine offers for the crown of modern progress.

Notwithstanding the illustrious names which, in our own day, the world beyond our geographical boundaries has given to medical science, our American States have likewise their great physicians whose offerings on the altar of that science whose special care is the welfare of man, are worthy of exalted place beside the Old World's gods. For the Virchows, Charcots and Lombrosos, Maraglianos and Kowalewskys, Gulls and Horsleys, of world-wide fame beyond our shores, we have given to the world our Brown-Séquard, who went from America to cosmopolitan fame, our Hammond, another pioneer American neurologist whose books have been translated into all the languages of civilization, our Seguin likewise, and our Pepper, President of this Congress and the peer of Sir William Gull, of Great Britain, and Ferran, whose preventive inoculations against cholera Asiatica called the medical world's attention anew to the grandeur of Spanish medicine. If Wigan could conjecture the duality of the mind from theoretical considerations and the general division of the brain into hemispheres, Brown-Séquard later, and at the time an American, proved it, and even my own feeble contribution on the "Duality of Action

and Vicarious Functions of the Cerebral Lobes and Hemispheres," * in 1873, might count for something, even though it emanated from a lunatic asylum in the valley of the Mississippi. If Hitzig, a German, and Ferrier, an Englishman, demonstrated and located motor centers in the cerebrums of the lower animals, Bartholow, an American, established by satisfactory physiological experiment their correspondence in the human brain.† If Victor Horsley and others first clinically applied the discovery of cerebral localization to surgical therapeutics for brain diseases, Professor William Fuller, a Canadian anatomist and surgeon, first trephined the skull in a case of idiocy, an operation which has recently been heralded from abroad as a new surgical procedure.

The author of this operation, now residing in this country, in Grand Rapids, Mich., is the designer from life of a series of brain sections and sectional casts, photographs and models, some of which I now show you, which have not been excelled in Europe.

Now that this operation of Dr. Fuller has come back to America with European approval as a European procedure, it is interesting to note the reception, a part at least, of the medical press of England, gave the novel surgical procedure at its inception on this continent.

The following extract from *The London Doctor*, a monthly Review of British and Foreign Medical Practice and Literature, No. 1, Vol. VIIII., page 5, Jan. 1, 1878, is appended as evidence that the case reported in this paper, received at the time a wide publication:

> Dr. Fuller, of Montreal, has, says the *Canada Lancet*, conceived the novel idea of trephining out portions of the skull of an idiot child of two years old, so as to allow the expansion of the brain. The idea is certainly novel, so far as we know, no surgeon having previously ventured to remove portions of the skull cap, so as to allow the brain to expand. We sincerely hope this brilliant (!) experiment will not be repeated. How does Dr. Fuller propose to protect the exposed portions of brain, should the brain protrude through the apertures he has made ?

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* *American Journal of Insanity*, Vol. XXXII., 1875.

† *American Journal of the Medical Sciences.*

According to latest advices, Dr. Fuller contemplates removing another piece. We hope not.

Under the name of linear craniotomy, this operation has recently found decided approval both at home and abroad. Engel speaks enthusiastically of it even for dementia epileptica.

If European surgery first exsects a stomach or a kidney, or cuts down upon and removes a stone from the bladder or gall cyst; American surgery, represented in the person of Ephraim McDowell, with a temerity that startles the conservatism of Europe, first cuts into that surgical *terra incognito*, the abdominal cavity and saves an imperiled human life by successfully removing an abdominal tumor, a feat common enough now, alas, all too frequently performed by novices with the knife; lacking in mature surgical judgment. He and Battey, another American, led the way for the successful ovariotomies of Lawson Tait and his followers, and Marion-Sims, God bless his gentle precious memory, lays the foundation, by a peerless procedure on the female perineum, for the rescue of womanhood from untold misery. Marion-Sims, who, when asked to unsex a woman, in whom there was other possibility of salvation, could say to Weir Mitchell, "Let us give her a reprieve; I never unsex a woman without a pang," and the woman got well as you and I know hundreds of others would, if permitted to do, without oöphorectomy. God bless Marion-Sims.

As we are justly appreciative of the part which American skill has performed in the world's surgical advancement; as the recalling of the names and deeds of our Motts, Brainards, Popes and Stones and Physics', Gross' and Hodgens, gives us pleasure; if we revere our Rushs and Woods as England does her Hunters, Sydenhams and Gulls, so of our own American alienists and neurologists and their achievements, we are justly proud. The accomplished Isaac Ray and the gifted Amariah Brigham, Pliny Earle and Tyler, now no longer among

us, and Van Dusen, the son of Michigan and a Kalamazoo Asylum Superintendent, whose essay on "Neurasthenia" preceded that of the classical work of Beard on "Nervous Exhaustion"—Beard who gave to the world a new disease, and gave it a new name, although the term "Neurasthenia" was borrowed unknowingly from Van Dusen (*vide* ALIENIST AND NEUROLOGIST, Vol. I., No. 4, 1880). Since these contributions appeared the subject of nervous exhaustion has become too common in the literature of this country and Europe to need further mention here.

There are three works of Dr. Hammond which have had much influence on Neurology and Medicine generally and these were accomplished during his service as Surgeon-General on the active list of the United States Army.

1st. The establishment of the Hospital for Injuries and Diseases of the Nervous System in Philadelphia, where the foundation of Dr. Weir Mitchell's most original work, "Wounds and Injuries of Nerves," was laid, Dr. Mitchell having been placed in charge by Surgeon-General Hammond.

2nd. The establishment of the Army Medical Museum in Washington.

3rd. The origination of the "Medical and Surgical History of the Rebellion."

These three things give our colleague just claim to distinction. I think the Hospital for Nervous Diseases was the first of its kind ever established in the world.

Besides, our colleague wrote the first systematic "Treatise on Diseases of the Nervous System" in the English language, if not in any language.

If we look for new discovery and classification of disease, America has not been entirely wanting. For a long time Beard's claim was controverted abroad, afterward Neurasthenia was called "The American Disease," then "American Nervousness," till finally foreign writers recorded it among their people, even away off in far-off Russia, where Kowalewsky has written his classic book on

the subject and given us due credit for our discovery. So in regard to Hammond's discovery of athetosis and mysophobia, and the coinage of these terms; and in regard to neurasthenia, I believe it is even now conceded that the original American claim* of general functional neurotrophia as the foundation of nervous exhaustion is universally admitted.

Seguin, in his clinical lectures in 1890, first suggested the substitution of a mixture of chloral and bromide for simple bromide, in the treatment of idiopathic epilepsy, when certain indications are present, chloral being indicated when the bromides alone produce undue stupor and extremely severe acne; also in cases where psychic disorder follows the stoppage of the bromides. This practice has now become general. He first attempted to subdivide the symptomology of "cerebral hyperæmia" (of Hammond and others) into several new groups according to etiology, *e. g.*, cases due to lithæmia, to feeble or diseased heart, and (a large group) to eye-strain, etc. He also attempted to give the distinguishing clinical signs (*N. Y. Med. Jour.*, Dec., 1892), between cases of cerebral paræsthesia due to insufficiency of the interni and those due to insufficiency of the externi, and recommended the use of nux vomica and strychinia for weakness of the interni and of belladonna, cannabis indica and other mydriatics for weakness of the externi. These drugs to be used as tests for diagnosis, and also for continuous treatment. He contributed by autopsies and clinical cases to confirm the doctrine of cortical localization of functions, in respect to the visual center (cuneus in 1880, I think), the speech center (1868) and in subsequent years, the facial, brachial and pedal, or crural, centers, and gave absolute *post-mortem* evidence in support of the idea that such centers exist.

Besides Bartholow's communication, the whole subject of cerebral localization has received additional light from the contributions of our Charles K. Mills, of M. Allen

* *Vide*, ALIENIST AND NEUROLOGIST, Vol. III., No. 3, 1882.

Starr, Eskridge, Spitzka, myself and nearly every American neurologist, while the contributions of Spitzka to cerebral pathology, as those of Isaac Ott to cerebral physiology, have been justly acknowledged abroad.

Seguin and Hammond early advocated, before anyone else abroad, I think, the use of large doses of potassium iodide in syphilitic or non-syphilitic diseases of the nervous system, giving historical proof of its American origin (New York) and called it the "American method." Attempts have been lately made in Europe to ignore our great priority in this. Seguin, S. and H., say they learned it from Van Buren and Draper in 1865–7. I adopted this practice at the Insane Hospital at Fulton in 1867–8.

It falls to the lot of but very few men to discover a really important thing and to cause a great forward step to be made in medical science. Most of us must be content with helping the good work of adding new facts of secondary importance, and trying to apply scientific methods to the treatment of disease. I think that in this sphere of secondary scientific usefulness, American neurologists have made and are making good records.

The clinical relation of absent patellar reflex to locomotor ataxia, though first shown by Westphal and Erb, was extensively studied by Seguin, Gray, myself and others, and its relation to other diseases and the *possibility* of the knee-jerk being naturally *nil* in some persons, was first shown in this country and acknowledged abroad,* so that the knee-jerk criteria of tabes dorsalis is a lost reflex, and an exaggerated jerk in lateral sclerosis and other states. I myself offered the first proof many years ago that it need not be present in apparently healthy individuals. One of those persons still lives and is free from any spinal or other nervous disease to this day. What is true as to elucidation of this reflex is equally true of the cremasteric and other reflexes, *vide* writings of Weir Mitchell and others. The bulbo-cavernous reflex and the

* "Diagnostic Significance of Absent Patellar Reflex."—ALIENIST AND NEUROLOGIST, January, 1880; *St. Louis Medical and Surgical Journal*, February, 1879.

virile reflex, practically the same thing, were discovered and clinically elucidated about the same time in Europe and America.

The value of the cremasteric reflex has been studied by Weir Mitchell with the same thoroughness of elucidation as that he has given to lesions of the peripheral nervous system generally; and Dr. John Ferguson, of Toronto, Canada, has also thrown new light upon the patellar reflex (*vide* "Remarks on Some Cases of Hemiplegia," ALIENIST AND NEUROLOGIST, January, 1892.) This subject has also lately been enriched in this country by Dr. F. X. Dercum, in a paper on "Optic Neuritis, Blindness and the Knee-Jerk in Cerebellar Disease," read before the American Neurological Society, July, 25th.

The important subject of rheumatism affecting the nervous system was embodied in the recent address of Dr. Henry M. Lyman, before the American Neurological Association, and attention called to important clinical facts, especially affections of the sensory nervous system, not commonly recognized as associated with this disease.

The gastralgias, enteralgias, cutaneous irritations, sensitive feet and arthritic and cutaneous neuritides of rheumatism, have often attracted my attention and have been to me an interesting clinical study, and much more is yet to be written on this important subject.

In the therapeutics of the nervous diseases, as well as in clinical description and pathology, to America belongs much credit for originality and efficiency of discovery and suggestion. Was it not in this country that the great Brown-Séquard first conceived and promulgated his famous treatment for epilepsia, which has done more than all preceding or subsequent therapeutics suggested for the alleviation of this grave malady?

All the now acknowledged virtues of phytolacca decandra, or poke root, except the property of phytoline to reduce corpulency, were brought to my attention through the thesis of a student candidate for graduation of the St. Louis Medical College, in 1859; and Dr.

Bealle, an ingenious fellow-graduate from Texas, that same year, told in a thesis, which he entitled "Ups and Downs of a Texas Doctor," how he made a satisfactory flexible bougie out of green slippery elm bark, how he employed a smooth green wheat straw for a catheter and the crushed potato bug mixed with lard as a satisfactory vessicant in lieu of Spanish cantharides,—practices which I imitated myself while doing a general country practice in Missouri in 1859 and '60, when I could do no better, and there is nothing much better for gentle dilatation in certain surgical emergencies than a smooth slippery elm bougie. I could relate other instances of Western American surgical genius in the use of therapeutic expedients in pressing emergencies of practice were they strictly *germane* to our subject.

It would require the space of many hours to detail the remedial virtues of our South American flora, beginning with our well-known cinchona. *Vide* paper on this subject by Dr. J. B. DeLacerda, a colleague of the present Congress.

I suggested and used chloral hydrate per rectum in the treatment of convulsive affections, a method based on the West Riding Asylum practice in epilepsy, and used by me for arresting the convulsions of children and of the puerperal state.

Leonard Corning's method of local anæsthesia is original, and we justly claim the discovery and therapeutic application of general anæsthesia, as American, Sir. James Y. Simpson, to the contrary notwithstanding. Copious ether douching for cephalo-spinal pain was practiced by myself thirty years ago. I was the first to employ capsicum, hot coffee and ammonia enemata to resuscitate from profound opium narcosis (*vide* Appendix), after failing with a battery. Kiernan was the next to follow the practice.

In the department of electrotherapy, especially in diseases of the nervous system, America stands well forward in therapeutic suggestion and resource. Beard and Rockwell and their followers in this country have done much

in this line. It has been fully thirty years since I first employed the constant current for cerebral and other congestive states, not excepting ovaries and pelvis, and recommended it in gynecology, based on a prior recommendation of Legros and Onimus that it would reduce interpelvic sanguineous fluxes. It has been more than twenty years since I began the systematic employment of constant cephalic galvanizations for the cure of insomnia and the treatment of epilepsia, under the conviction that the prominent symptomatology of both of these affections were dependent upon disorder of vasomotor control, which cephalic galvanizations tend to restore as the bromides do.

Dr. J. B. de Lacerda, of Rio de Janeiro, has offered to this Section a paper on "The Condition of Hyper-excitability of the Phrenic Nerve in Beri-Beri," which is a real addition to the subject.

In this connection I may properly mention Dr. Henry M. Lyman's book on "Artificial Anæsthesia and Anæsthetics, Insomnia and other Disorders of Sleep," as a valuable American contribution to these subjects.

We have done no markedly original work in hypnotism, but have some imitators of Charcot and others, as Charcot and his followers have with professional applause followed Braid, the professionally tabooed Manchester follower of Mesmer, the mountebank original.

Cataphoresis in neurotherapy has been considerably advanced in America by Corning, Peterson and others, and likewise the hypodermic use of arsenic by Moyer; also the employment of antipyrine, acetanilide and other coal tar derivatives, by the last named and many others. (*Vide* Appendix.)

The therapeutics, as well as semiology, of insanity, has been enriched by Jewell and Moyer in this country by treatment directed to the colon. (*Vide* Appendix.)

Nitroglycerine, or glonoine, was first suggested to the regular profession in 1876 and '78, by Allen McLane Hamilton, before Murrell or others abroad had used it,

for anæmic cerebral states and cerebral arteriole spasm. It was on this recommendation and the recommendation of nitrite of amyl for a similar purpose that I first employed the latter for the differential diagnosis of supposed hyperæmic from anæmic intracranial states (*vide* Editorial in ALIENIST AND NEUROLOGIST, October, 1880.)

A decidedly original and successful procedure in American surgical neurotherapy is that of pudic neurectomy as a remedy for masturbation, reported by Dr. J. S. Eastman in the *Medical News* of August 12th, of this year. The nerve being more sensitive on this side, Dr. Eastman cut down upon the left pudic nerve, which he found hypertrophied, and removed three inches of it. The patient gained weight and was freed from this vice, which had existed from the sixth to the twenty-sixth year. She had been previously sutured in the labia, cauterized, oöphorectomized and clitoridectomized without benefit.

Veratrum viride, one of the very best remedies I know of for sthenic states of high cerebral and pulmonary congestion with full, bounding pulse and violent cardiac systole, that is better than the lancet in high grade apoplexy and pneumonia, as it is fatal to opposite asthenic states of pulmonary inflammation and cerebral congestion, is a distinctly American remedy, and the practice of using it, as well as abusing its use, is of American origin. It may sometimes well substitute the bromides in certain phases of neurotherapy. I have so employed it. But we must not further dwell specially on American original contributions to neurotherapy. We could not complete the subject in the limits of an ordinary duodecimo volume, while another volume of equal size would not record the real practical progress and unequaled elegance of American pharmacy as applied to our therapeutics.

In the direction of neurological originality and advance the work of our own distinguished Spanish-speaking Secretary, Dr. M. G. Echeverria must not be overlooked. Though his modesty has prevented him from publicly

claiming his due reward of merit, his claims have not been overlooked by foreign sources of appreciation.

His English publications, notably his great book on "Epilepsy," although scarcely noticed by American authors, is much and favorably quoted by neurologists in Germany, England and France. On their merit he was elected Honorary Member of the Medico-Psychological Society, of Paris, and of Great Britain and Ireland; also Vice-President to the first Congres International de Medecine Mentale, held in Paris in 1878, when he was called upon to preside on motion of the late Professor Lasegue, after the sudden illness of Dr. Baillarger, Chairman of the Congress. So far as I know, Dr. Echeverria was the first physician in this country who, as "Professor of Nervous and Mental Diseases," delivered didactic courses of lectures on this subject. This was in 1861, in the University Medical College of New York, while Sequin followed at the College of Physicians and Surgeons, in 1873. On his removal to New York from the National Hospital for the Paralyzed and Epileptic, in London, where he had occupied the position of resident assistant physician with Drs. Brown-Séquard and Ramskill as visiting physicians, he induced the Commissioners of Public Charities and Correction to establish the Hospital for Epileptics and Paralytics on Blackwell's Island, New York, under his chief direction, and to found a school for idiots in Randall's Island, and Dr. E. Seguin, *pere*, Drs. Kerlin and Wilmarth, of Elwyn, and their literary and practical works as revealed in the pages of the ALIENIST AND NEUROLOGIST (*vide* Appendix). They and Dr. Brown, of Barre, Mass., and the Wilburs have certainly done much creditable pioneer work with this class of defectives.

We may here remark, as facts of historical interest, that Dr. Echeverria was the first in America to perform, in 1865, assisted by Dr. J. H. Douglas, excision of a large portion (two inches) of the ulnar nerve at the elbow for the radical cure of epilepsy following upon

traumatic injury. In 1869, in the presence of Prof. Boeck, of Christiania, and other physicians and students, he removed at the hospital in Blackwell's Island, the largest sanguineous clot (one and three-fourth inches long by three-fourths of an inch wide) ever extracted, to that time, from the base of the second parietal convolution of an epileptic lad, another operation lately originated abroad. The conical fibrinous clot was deeply imbedded in the cerebral substance, and the patient directly recovered his lost intellectual faculties upon the successful operation. The case is reported in his "Clinical and Anatomopathological Researches on Epilepsy," and in a subsequent paper published in Paris in 1878 (*Lesigue's Archives Generale*), with the records of five similar cases from Dr. Echeverria's own practice, and one hundred and forty, mostly by American and English Surgeons. This paper was written mainly to show how unwarranted was the risk of this procedure then ascribed to it by French surgeons.

This distinguished neurologist, one of our colleagues, to-day, and those I have named before him, will not be overlooked when a candid world enumerates in history of America's neurological benefactors.

Worthy of special mention with the foregoing is our indefatigable co-worker and colleague, Prof. Chas. K. Mills, whom the University of Pennsylvania has so lately honored with its Chair of Mental and Medico-legal Medicine. His recent studies in "Lesions of the Superior Temporal Convolution," accurately locating the auditory center, his presentation of the subject of aphasia and other affections of speech in their medico-legal relations, and lesions of the cauda equina, are real advances that must be universally acknowledged, as are likewise the complications of multiple neuritis, and other papers which we present in the Appendix.

And now I name another star which shines in the neurological firmament of New York—a star emphatically spelled by his far-seeing parents with a double "r."

Among numerous recent contributions, besides his book on "Brain Surgery" (Published by William Wood & Co., N. Y.), he has given us a special study of "Local Anæsthesia as a means of Diagnosis of Lesions of the Lower Spinal Cord" (*American Journal of Medical Science*, July, 1892); "The Cerebral Atrophies of Childhood, with Special Reference to Imbecility, Epilepsia and Paralysis (*N. Y. Med. Record*, Jan., 1892); "Trephining for Hemorrhage of the Brain Producing Aphasia.—Recovery" (*Brain*, 1892); "Hemi-Analgesia Alternans" (*N. Y. Med. Record*, Feb. 11th, 1893, and has thrown some new light on the subject of "Syringo-myelia" (*vide American Journal of Medical Sciences*, May, 1888). His book, "Familiar Forms of Nervous Disease," is a credit to any country. Other bright neurological stars are shining and many have shone longer in the same scientific and humanitarian sky.

It is my impression that Ord's discovery of "Myxœdema," received its first clinical confirmation in this country, and McLane Hamilton, I think, furnished five of the earliest clinical proofs of its verity as a distinct disease.

Hamilton first pointed out the neuro-genesis of certain meningeal inflammations, and I have maintained and do yet maintain that hæmophilia is a vasomotor neurosis.

The ALIENIST AND NEUROLOGIST (April, 1884, *et seq.*) early maintained that oöphorectomy was too often performed upon the mistaken assumption that the ovary originated nervous disease, whereas the reverse is the most common clinical fact. This is not only an original American claim, but it is now becoming a generally admitted fact both abroad and at home, and the latest and best article on this subject is by Dr. Hamilton, in a late number of the *N. Y. Med. Jour.*

Another rising luminary of this field is Dr. Frederick Peterson, a reference to whose late contributions (*vide* the Appendix) will interest you and show some good

spokes, at least, in the wheel of neurological progress. His recent papers on "Cataphoresis," his physiological experiments with magnetism at the Edison laboratory, and his joint papers with Sachs on "The Cerebral Palsies of Early Life" (*Jour. of Nervous and Mental Diseases*, May, 1890), and other papers to be found in Appendix, are all valuable.

But the stars of this firmament are too many to be counted. Should we dwell long enough to attempt it, we should not during our hour get round the circle. There remains Sachs who has translated Maynert's "Psychiatry" for us; Bert Wilder, The Brain Builder of Ithaca; A. Jacobi, The Universal Genius; Corning, already mentioned, whose book on "Brain Exhaustion" is standard. There is also Dana, to whom we have already alluded, with Carter Gray, whose respective books are abreast of all neurological advance, and in every way creditable to American neurological science; besides E. N. Brill, Graeme M. Hammond and Brown of the *Journal of Nervous and Mental Diseases*, also Ambrose L. Ranney and his standard text-books on "Nervous Diseases and Neurological Anatomy," and Geo. I. Stevens with his Belgian Academy prize essays on the "Occulo-Neural Reflexes, and the Relation of Eye-Strain to Nervous Diseases," whose first article on this subject appeared in the earlier numbers of my journal. Too many stars to classify and minutely describe, but they make a brilliant constellation.

If we look back to Philadelphia we discover another neurological star that has escaped our gaze, Wm. C. Wood, whose treatise stands high, and yet another, Dr. A. H. P. Leuff, of neuro-anatomical fame, also Harrison Allen, and there is Wormly, too, of Philadelphia, who is not altogether without the pale, and James Hendrie Lloyd.

Far to the Southward are Joseph Jones and Sanford Chaille, of New Orleans, and Buckley, of the Occidental metropolis.

And now, casting our eye to Baltimore, our vision falls on three luminaries, Miles, Osler and Hurd, whose light has not shone in vain. There also shine Conrod, Reed, Berkley, Welch and Halstead of Johns Hopkins Hospital.

Skirting the sky Northward we come to the Hartford Constellation, Stearns and Crothers. The book of the former is devoted to practical psychiatry, the contributions of the latter to that important branch of psychiatry, which through Kerr, Mason, Wright, Crothers and others, has made such rapid forward strides in American, as well as in English, study of inebriety.

The subject of alcoholic trance has been almost exclusively an American neurological study, and Dr. Crothers has contributed more than any other American, perhaps, to make it plain. In the Appendix appears further evidences of American advance in this direction.

I had almost omitted to note the excellent series of articles by Dr. Frank G. Baker, Professor of Anatomy in the Medical Department of Georgetown University, on "Recent Discoveries in the Nervous System," which have appeared in the *New York Medical Journal* during the current year, and which have been copied into my own journal, from which it appears, in the language of the writer, that all the ideas we have had concerning the development and inter-relation of these structures must be revised. The entire nervous system must be re-examined, the history of every ganglionic center must be traced.

As our vision ranges further, Boston, with its neurological and psychological *savants*, comes into view—Philip Coombs Knapp and his book on "Intra-Cranial Tumors and Other Diagnoses," Putnam, Channing, Webber, Folsom, John E. Tyler, the departed alienist of Sommerville, and Oliver Wendell Holmes, the poet sage and anatomical and psychological *savant* of Harvard. The subject of "Arterial Tension in Neurasthenia" received

some new light from Boston in 1888 (*vide* article on the subject by Webber, *Boston Medical and Surgical Journal*, May 3d, 1888); likewise the subject of "Lead Paralysis as it Affects the Brain (*vide* same source, October 29th, 1891); also the "Condition of the Blood in Certain Mental States" (*vide idem*, March 24th, 1892). The same journal for August 29th, 1889, also contained some additional light on "Paramyoclonus Multiplex," and other peculiar forms of spasm, and in September of the same year, in same journal, page 277, this American writer throws additional light on the subject of "Cerebral Tumors and Their Treatment."

As we continue our survey of the neurological heavens, we come to the constellation Chicago, with such bright, particular, neurological stars as Lyman, with his book on "Practice;" Kiernan, the polygot, who has given us good papers on nearly every subject in neurology and who has especially enriched the subject of morbid erotism in its clinical aspects in the United States; Moyer, the tireless; Paoli, Sanger Brown, Brower, Clevenger, Lydston, and their books, and Church, sadly remembering one bright luminary of these heavens now blotted out, whose light shone for a time upon our particular sky with effulgent luster—Dr. J. S. Jewell. He was a star of the first magnitude, a neurological Jewell of the first water, an indefatigable student, painstaking observer and a writer of the highest ability.

He blotted out his own bright life in the prime of his manhood by over-zealous work in the cause he loved above his life. He founded and maintained, while he lived, the *Journal of Nervous and Mental Diseases*. And this reminds us that we should not omit most honorable mention, in this connection, of the name of Dr. Jewell's worthy and industrious co-worker, Dr. H. M. Bannister, among the men of might near Chicago who have contributed to brighten her brilliant neurological sky.

Hinde and Moyer have also contributed a paper to "Clonic Rhythmical Spasm of the Pronator Radii Teres"

(*Jour. of Am. Med. Association*, 1887); and Moyer alone has contributed the following additional papers: "Periodically Recurring Oculo-motor Paralysis" (*The Medical Record*, 1887), being the first case described in this country. "Akinesia Algeria" (*Medical Standard*, 1893), being the sixth case reported and the second in this country, and "A Rare Occupation Neurosis" (*Medical News*, 1893). By his works ye shall know him (*vide* Appendix for much more than we have here noted).

Within almost a suburban radius of Chicago is McBride, of Milwaukee, and his "*Review of Insanity and Nervous Diseases*," and Bannister, of Kankakee, and till lately Patterson, of Batavia, now deceased.

Modesty forbids my dwelling at length upon what St. Louis has done for the advancement of neurology. We may recover from our modesty sufficiently to appear in the printed Appendix; however, I might briefly intimate that both Dr. Bremer and myself have within the past few years added something to the literature of "Astasia-Abasia;" Fry to "Chorea;" Shaw to the subject of "Trephining for Brain Disease," and Bauduy to the "Study of Alcoholism and its Treatment." This is not all that we have done, but it were better that someone else, non-resident, should record and comment on our work, and I may say again, as I have said before, *vide* Appendix.

Now if we continue our survey, we find the sky of neuriatry and psychiatry is not dimmed as we approach the region of the apparently setting sun. On the contrary, bright stars illuminate the Western heavens. See how Eskridge shines:

He has contributed a valuable paper on "Nervo-Vascular Disturbances in Unacclimated Persons in Colorado" (*The Climatologist*, March, 1892), the important conclusion of which is for persons on going to the high altitudes of Colorado, especially for those who are nervous or who suffer from pulmonary trouble or cardiac weakness, to live comparatively quietly until they become accustomed to their changed environments

Likewise another on "Chorea in Relation to Climate, Especially the Climate of Colorado" (*Climatologist*, Aug., 1891). This study of the effect of the climate of Colorado on chorea shows but little, if any, modifying influence due to altitudes of 5,000 feet to 6,000 feet.

Another exceedingly valuable and advance contribution to the literature is "Retro-Anterograde Amnesia with Report of Two Cases" (ALIENIST AND NEUROLOGIST, July, 1892). This is an exceedingly interesting subject, both from a psychological and medico-legal point of view.

This is as far as we can go with Eskridge. But he has written much from his high stand-point in the Rocky Mountains, and all is in the line of advanced neurology. (*Vide* Appendix.)

Next comes Howell T. Pershing, of Denver, who records five cases of Pre-ataxic Tabes Dorsalis with Optic Nerve Atrophy, in which there were marked atrophy of the optic nerves with little or no ataxia. He gives a statistical study of tabes, and shows that (as Walton and Gowers have recently claimed) the early occurrence of optic atrophy is in some way associated with an arrested development of the spinal symptoms.

This fact modifies the ordinary rules of diagnosis and prognosis.

He also records a case of Jacksonian Epilepsy, with successful operation; no recurrence of the paroxysms more than a year after operation. Other articles by this writer are: "Language and Brain Disease" (*Popular Science Monthly*, October, 1892), and "Disseminated Sclerosis Following Syphilis" (*International Clinics*, July, 1891).

But we cannot go further in this manner. If we went hence South to the City of Mexico, thence across the Gulf to New Orleans, thence North to St. Paul and crossed the continent to San Francisco, we should find working neurologists contributing their quota to the world's neurological and psychological progress.

As I am about to conclude, the proceedings of the

July meeting of the American Neurological Association have just appeared in the weekly medical press, and here are its notes of American neurological progress:—

Besides the President's Address and Dr. Dercum's paper, to which I have referred, Dr. Smith Baker's paper on "Heterogeneous Personality;" Matthew Field's, on "Hospital Detention;" Frederick Peterson's, on "Temperature in General Paralysis of the Insane;" Joseph Collin's, on "Changes in the Spinal Cord in Old Cases of Infantile Paralysis;" G. M. Hammond's, of "Progressive Muscular Atrophy;" C. L. Walton's "New Method of Reducing Dislocation of the Cervical Vertebræ;" Dana's "Acromegaly, Gigantism and Facial Hemi-hypertrophy;" J. J. Putnam's "Thyroidectomy in the Treatment of Graves' Disease;" B. Sach's "Tabes and Syphilis;" Krauss' "New Pedodynamometer;" Drs. Lloyd's and Reisman's joint communication on "Infectious Endocarditis with General Septicæmia and Multiple Neuritis;" C. L. Walton's "Tumor of the Angular Gyrus;" Dr. E. D. Fisher's "Autopsy and Report of Congenital Cerebral Hemiplegia;" C. K. Mills' "Lesion of the Thalamus and Internal Capsule;" Wharton Sinkler's "Tumor of the Optic Thalamus;" Geo. J. Preston's paper on the "Localizing Value of Aphasia;" Leonard Weber's, on "Neurasthenia;" Krauss' "Case of Myxœdema, with Observations;" Philip Koombs Knapp's "Simulation in Traumatic Nervous Diseases;" and "The Microbic Origin of Chorea," by Dr. C. L. Dana, are all instructive, suggestive and progressive in our department. The proceedings of this favorite American society are becoming every year more and more valuable. They are indispensable to neurological advance. The neurological world would not march on to its manifest destiny to rule paramount in the world's medical thought without the original work of this great American society of distinguished neurologists.

There were also papers read only by title before this body, the names of whose authors are also adequate

warrantee of worth. Among them—"The Genesis of Hallucination and Illusion," by H. A. Tomlinson, of St. Peter, Minn.; "The Diagnosis of General Paresis," by L. C. Gray, of New York; "Two Cases of Friedreich's Disease," by F. R. Fry, of St. Louis; "The Metapore or Foramen of Majendie in Man and in the Orang-Outang," by Burt G. Wilder; "The Relations of Chorea to Rheumatism," by C. Eugene Riggs, St. Paul; "Experiences in the Use of Testiculine and Cerebrine," by J. J. Putnam, Boston; "Paralysis after Surgical Operations," by V. P. Gibney, New York; "Traumatic Brachial Plexus Paralysis in Infants," by Wm. Leszynsky, New York.

If I should go on enumerating the work, present and recent, of American neurologists, it would develop acute cerebrasthenia. It would make you tired.

I had almost forgotten to note the contributions of our hospitals for the insane to the pathology of mental diseases. I cannot now go entirely over this vast subject. Besides what has been done at Utica, N. Y., and Middletown, Conn., with which you are familiar through the *Journal of Insanity*, you may not know that it has for a long time been the custom of Dr. J. W. Blackburn, the eminent pathologist of the Government Hospital for Insane, at Washington, to each year select a number of cases for special study as a pathological supplement to the annual reports of the Government Hospital for Insane. This and the making of nearly one hundred *post-mortem* examinations yearly, constitutes the work of this hospital, to which I also invite your attention in the Appendix.

I had almost omitted James Hendrie Lloyd, of Philadelphia, and Theodore Diller, of Pittsburgh.

You see, America breeds and develops neurologists as the water breeds and develops fishes. The pabulum neurology feeds on is in the American people—their hustling, rushing habits, their business, professional, social and political environment, and the numerous newspapers they read every morning before breakfast and every night before they forget to say their prayers—this moral,

political, social and business atmosphere of ambition and bustle, tends to develop the strongly endowed, neurologically and psychologically, as it tends in the weakly endowed to the development of neuropathic conditions. It develops neurologists and psychologists to care for the neuropaths. It builds and it breaks the nervous system. It cannot yet be said that we are a neuropathic people, though we are tending that way; but neurology is advancing with equal pace with neuropathic break-down, and will, it is hoped, ultimately enlighten and save the people from their neuropathic sins.

APPENDIX.

DR. M. ALLEN STARR.—

"Diagnosis and Operation for Three Tumors of the Brain" (*American Journal of Medical Sciences*, April, 1893).

DR. T. D. CROTHERS.—

"Law of Periodicity in Inebriety" (*vide* ALIENIST AND NEUROLOGIST, July, 1892), showing a uniformity in the drink impulse and the laws which regulated it.

"Some New Studies of the Opium Disease," read before the Philadelphia County Medical Society, Jan., 1892, pointing out a neurotic diathesis and various conditions favoring this disease.

"Are Inebriates Curable?" read before the English Society for the Cure of Inebriety, June, 1892, proving the curability and the periodicity from further study in this direction.

"Sanitary Side of the Drink Problem," read before the American Medical Association, June, 1892, discussing the sanitary dangers from neglect of control of Inebriates.

"Medical Jurisprudence in Inebriety" (*vide International Magazine*, February, 1893); an argument to prove the need of a new legislation for inebriates.

"American Inebriate Asylums," read before the

American Medical Association, June, 1893, being a historical review of asylum treatment for inebriates.

"Criminal Inebriates and Treatment," read before the Congress of Criminology, June, 1893.

Dr. Frederick Peterson.—

"Homonymous Hemiopic Hallucinations" (*New York Medical Journal*, Aug. 30th, 1890 and Jan. 31st, 1891); "Disturbances of Sense of Taste After Amputations of Tongue" (*New York Medical Record*, Aug. 30th, 1890), and his paper on "Gyrospasm of the Head in Infants" (*Phila. Med. News*, Oct. 1st, 1892), are especially interesting. "Three Cases of Acute Mania from Imbibing Carbon Bisulphide" (*Boston Med. and Surg. Jour.*, Oct., 1892), and upon "Physiological Experiments with Magnetism at the Edison Laboratory" (*N. Y. Med. Jour.*, Dec. 31st, 1892).

Dr. Harold N. Moyer.—

"Relation of Insanity to Crime" (*Chicago Law Journal*, 1889); "The Hypodermic Use of Arsenic" (*Therapeutic Gazette*, January 15th, 1891); "Differential Diagnosis of Uræmia and Epilepsy" (*Medical Mirror*, 1891) and "Nervous Sequelæ of Influenza" (*Medical Age*, 1891), this and the papers of Mills and Gowers, and my own contribution (Alienist and Neurologist), all present new features of this disease and prove it to be a toxic neurosis.

Pathological Work of the Government Hospital for the Insane.—

Report of 1887.—Supplement Illustrated.—"Report of *post-mortem* examinations in thirty-one cases of paralytic dementia, or general paralysis of the insane."

Report of 1888.—Supplement.—"Table showing the *post-mortem* appearances of the kidneys in two hundred and sixty-three cases of mental disease, giving the age, occupation, nativity, mental disorder and co-existing physical disease."

Report of 1889.—Supplement Illustrated.—"Report of *post-mortem* examinations in twenty-nine cases of mental disease." Part I. "Fifteen cases of general paralysis and three cases of acute organic dementia." Part II. "Eight cases of acute mania, and three cases of acute insanity with maniacal symptoms, dependent upon organic brain disease."

Report of 1890—Supplement Illustrated.—"Report of *post-mortem* examinations in thirty-nine cases of epileptic insanity." Part I. "Twenty-two cases of chronic epileptic mania." Part II. "Seventeen cases of chronic epileptic dementia."

Report of 1891.—Supplement Illustrated.—"A study of nineteen cases of general paralysis of the insane."

Report of 1892.—Supplement Illustrated.—I. "Synopsis of *post-mortem* examinations in seventy-three cases of mental disease in females, with special reference to the condition of the organs of generation." II. "Condensed description of the tumors found in five hundred and forty-six autopsies in cases of mental disease in males."

DR. H. M. LYMAN.—

"Treatment of Neuralgia," *Western Medical Reporter*, 1889.

"Insanity Proceeding from the Colon," ALIENIST AND NEUROLOGIST, 1889, and *Journal American Medical Association.*

"Experts and Expert Testimony," ALIENIST AND NEUROLOGIST, 1891.

"The Neurological portion of Lyman's Text-book on the Practice of Medicine." Short papers.

"Tetany." Transactions of the Association of American Physicians, Vol. I.

"Railway Shock." Transactions of the Chicago Medical Society.

"Nervous Dyspepsia," Review of Insanity and Nervous Diseases, June, 1893.

DR. C. H. HUGHES.—

"A Clinical Inquiry into the Significance of Absent Patellar Tendon Reflex," ALIENIST AND NEUROLOGIST, Jan., 1880.

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"Aphasia and Other Affections of Speech in their Medico-Legal Relations," *Review of Insanity and Nervous Disease*, September and December, 1891.

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Tumor, Meningitis, Cerebritis, and Neuritis, (Hare's System of Practical Therapeutics, Vol. I., 1891.)

"The Nervous and Mental Phenomena and Sequelæ of Influenza," (Transactions of the Philadelphia County Medical Society, January 13, 1892.)

"Multiple Neuritis and Some of its Complications," *International Medical Magazine*, February, 1892.

"Neuritis and Myelitis and the Forms of Paralysis and Pseudo-Paralysis Following Labor," *University Medical Magazine*, May, 1893.

Dr. Peterson has contributed four papers on "Electric Cataphoresis," *N. Y. Med. Jour.*, Apr. 27, 1889, and Oct., 15, 1890; the *N. Y. Med. Record*, Jan., 31st, 1891 and the *Phila. Times and Register*, March 21st, 1891. This subject has received special elucidation in this country and is receiving more. It is a growing theme.

Dr. J. T. Eskridge.—

"Case of Fracture of the Twelfth Dorsal Vertebra, Followed by Injury to the Spinal and Sympathetic Nerve-Supply of the Bowel in the Region of the Ileo-cæcal Valve: Intestinal Hemorrhage and Death on the Seventh Day," *Medical News*, Oct. 10th and 17th, 1891. The interesting feature of the above case is indicated by the title, and consists in the accurate localization of the spinal and sympathetic nerve-supply to that portion of the bowel in the region of the ileo-cæcal valve.

"Gunshot Wound of the Left Cuneus, with Right Homonymous Hemianopsia" *Ibid*, Oct. 17th, 1891. The case, which was carefully studied during the life of the patient, and the lesion accurately examined after death, which occurred a few days after the receipt of the injury, is another proof, if one were needed, of the relation of the occipital lobes to vision.

"Myelitis in a Case of Incipient Posterior Spinal Sclerosis," *International Medical Magazine*, April, 1892. This case is one of posterior spinal sclerosis, which had

run a course of several years, when typical symptoms of acute myelitis developed, an extremely rare complication of this chronic affection of the cord.

"Acute Myelitis Preceded by Acute Optic Neuritis," *Journal of Nervous and Mental Disease*, Sept., 1890. In the report of this interesting case, the author gives a short abstract of a number of others somewhat similar to it. One curious feature of the one here reported, and of one of Dreschfield's cases is, that the optic neuritis reached its height before the spinal symptoms became manifest.

"Poliomyelitis with Perineuritis," *N. Y. Medical Journal*, Dec. 26th, 1891. The chief interest in this case lies in the fact that neuritis complicates poliomyelitis, and is a more frequent complication than was formerly supposed.

"Tumor of the Brain," *Denver Medical Times*, Jan., 1892. The main interest in this case is in the perverted tactile sense and abolished muscular sense early in the history of the disease, later in the restoration of tactile sense, but the muscular and localization senses remaining completely abolished. The author promises an interesting report when the case is finally put on record in the light of the autopsy.

"Some Points in the Diagnosis and Nature of Certain Functional and Organic Nervous Diseases," ALIENIST AND NEUROLOGIST, Jan., 1892. The first part of this paper is occupied with reports of cases illustrating a point in the differential diagnosis of organic spinal lesions from brain and peripheral affections, first brought to the attention of the medical profession by Dr. C. E. Beevor, of England. These cases support the claim of Dr. Beevor in that, by the careful study of the associated and isolated actions of the two parts of the great pectoral muscle, a spinal lesion may be diagnosticated or excluded in doubtful cases.

The second part is taken up in a discussion of the subject of "Uric Acidemia," so prominently and

enthusiastically advocated by Dr. Haig, of London. While the author is far from laying great stress upon this condition in the production of headaches, etc., and its treatment by acids and salicylates, yet he believes there are a number of cases, which, if well selected, much good results by following out Haig's method of treatment.

"Ataxia," *International Clinics*, Jan., 1892. The subject which forms the title of this paper is treated of in a systematic manner, and well illustrated by several cases.

"Syringomyelia," *International Clinics*, Vol. I., Second Series. This is an elaborate and very thorough report of a case of this curious disease, and in the light of the report of a recent case by J. Hendrie Lloyd, of Philadelphia, with an autopsy, including microscopical sections of the cord, there can be but little doubt that the disease now can be positively diagnosticated during life.

"Report of Cases of Moral Imbecility, of the Opium Habit and of Feigning, in Which Forgery is the Offense Committed," *Medical News*, Jan. 14th, 1893. The cases form an interesting medico-legal study.

"Traumatic Myelitis," *Medical News*, March 4th, 1893. The report of this case of traumatic myelitis illustrates how thoroughly the cord may be disorganized by concussion of the spine without any injury directly to bones, membranes or cord. The subject of spinal localization is considered at some length in the report.

"Idiopathic Muscular Atrophy," *Journal of Nervous and Mental Disease*, April, 1893. The infrequency of this disease gives the report its chief interest. The diagnosis is between idiopathic muscular atrophy and muscular atrophy of spinal origin.

"Chronic Meningo-Myelitis," *Denver Medical Times*, April, 1893. The case herein described illustrates the effect of trauma in lighting up latent syphilis.

Dr. Wm. Fuller.—

"Surgical Shock" (*Med. Record*), Montreal, Feb., 1877; "Physiology of Convulsions," June, 1876; "Treatment of Meningitis," Aug, 1877, and "A Case of Cerebral Tubercle," Dec., 1877. The ideas advanced in these papers were not in accordance with the teaching of the day. In Dec., 1878, he published a paper in the Detroit *Lancet* upon "Exophthalmic Goitre," referring all the symptoms to pressure and interference with the function of important peripheral nerves rather than to centric or sympathetic disease. "Trephining of the Skull in a Case of Idiocy, with Remarks," a paper read before the Medico-Chirurgical Society of Montreal.

Dr. Rohé.—

Dr. Rohé, of Catonsville, Md., in inquiring into the relations existing between pelvic disease and psychical disturbances in women (*Jour. Am. Med. Assn.*, Sept. 24, 1890), points out the frequency with which bodily conditions influence mental states, and shows that a "torpid condition of the intestines, Bright's disease, putrefactive processes in the intestinal canal, etc., might give rise to melancholia and other disorders of the mental functions."

Dr. Frank R. Fry.—

"The Sensory Symptoms of Three Spinal Cord Cases" (Alienist and Neurologist, July, 1893).

"The Etiology and Treatment of Chorea" (1886).

"An Analysis of New Cases of Chorea" (1889).

"Chorea in the Aged" (1891).

On "A Case of Chorea Attended with General Multiple Neuritis" (1891).

On "The Co-Existence of Chorea and Alien Spasmodic Phenomena" (1892).

On "A Second Case of Chorea Attended with Multiple Neuritis" (1893).

Judicial Recognition of Irresponsibility in Alcoholic Mental Disease.

By Norman Kerr, M. D., F. L. S.,

Chairman of the British Medical Association Inebriates' Legislation Committee; President of the (British) Society for the Study of Inebriety; Consulting Physician to the Dalrymple Home.

THERE was a time, not very long ago, when the plea, on behalf of an accused, that he was "mad through drink" when he committed the crime with which he was charged, would have had a curt reception from a judge. Nor could this be wondered at. In the belief that drunkards were but wilful sinners, delighting to get drunk, voluntarily drinking only to become intoxicated and glorying in their shame, nearly everyone agreed. Judges are made of the same clay as is ordinary humankind; and it could not be expected that members of the legal profession would detect disease of the mind where even doctors saw only a moral vice. This state of things prevailed in every community as well as in Britain. In those "good old times," short and sharp was the shrift of the murderer, though he had previously been drunk for days, or weeks, or years, and had never had any intention of hurting anyone. The Grecian law was merciless in its dealing with this class of criminals, the convicted drunkard receiving, in Mitylene, under the law of Pittacus, a double punishment—one for the crime, another for the drunkenness. Probably because imbued with this tradition, the great Sir Edward Coke declared that drunkenness aggravates a crime. (Coke upon Littleton, 547a.) Since Coke's day there has gradually been effected a remarkable change in criminal practice. Hale in former times and Hawkins in our own day lay down that equal punishment follows a criminal act, whether done in a state of sobriety or insobriety. (Hawkins, "Pleas of the Crown," Chap. I., Section VI).

This drop from double to equal punishment was only one step forward in the improved and more humane, as well as just, advance in criminal jurisprudence. My highly esteemed friend, Mr. Clark Bell, has pointed out in that valuable magazine, the *Medico-Legal Journal*, and in the "Proceedings of the (English) Society for the Study of Inebriety," the striking development in this direction of American law and practice, a progress which has not been left far behind by the rulings of English judges and the pleadings by members of the British bar. Evidence is now freely received on the accused's state as to sobriety, to determine the presence or absence, for example, of malice. In the case, tried before Lord Low, at Glasgow, in May, 1892, of a discharged army pensioner, who had with atrocious violence killed his female paramour, his lordship said that there had been no malice or deliberation, the intoxication having maddened the prisoner, which at once took the case out of the category of murder. A plea of guilty of culpable homicide was tendered and accepted, and the sentence of fifteen years' imprisonment passed. At the same circuit court, a young girl was convicted of murdering her mother with a hatchet and other articles, both mother and daughter being drunk. A similar plea was allowed, Lord Young sentencing the drunken child-murderer to one year's imprisonment.

Among other advances has been the ruling of Mr. Justice Stephen (Regina *v.* Davis, Newcastle, 27 April, 1881), that, though the immediate frenzy of intoxication does not absolve, any secondary disease producing mental unsoundness and resulting therefrom, does. Accordingly, we find that in many cases, delirium tremens, characterized by Mr. Justice Stephen, as a distinct and formed disease caused by drunkenness, has been held to be a valid plea for unaccountability. Let me refer just to a case or two. Lord Young (Regina *v.* Short, Glasgow High Court, August, 1889) declined to send the case of a woman, charged with killing her child by

starvation and neglect while laboring under delirium tremens, to the jury, on the ground that the delirium tremens was a disease, and discharged the prisoner.

Baron Pollock (Regina *v.* Mountain, Leeds, April, 1888) told the jury that heredity, as affecting the capacity of a man to drink like other people around him, and inciting him while intoxicated to commit acts of violence, must be taken into account, as the last person to know his own weakness was the person himself. The prisoner was acquitted as insane.

Chief Baron Palles (Regina *v.* Mary R., Galway Summer Assizes, 1887) ruled that exhaustion through loss of sleep, as a nurse, which in her enfeebled state caused alcohol to make her insane and was the cause of her killing the patient under the delusion that he was the devil, entitled her to acquittal. The prisoner was acquitted on the plea of insanity.

These eminent judges all thus recognized certain physically diseased mental states, affecting the power to drink with impunity as to the capacity to reason and know the nature of an act, as absolving from accountability. But Mr. Justice Day (Regina *v.* Baines, Lancaster, January, 1866) went still further, when he laid down that "whatever the cause of the unconsciousness, a person not knowing the nature and quality of his acts, is irresponsible for them."

In a recent case, that of a highly respected man, with a history of paternal suicide after a drinking bout and a personal history of occasional epileptic fits, who had killed his daughter after a drinking paroxysm extending over four days, though he appeared to be sober at the time, the accused was acquitted as of unsound mind. The presiding judge, Mr. Justice Wright, held that though the immediate effect of intoxication had passed away, there was evidently no criminal motive. The prisoner was on good terms with his daughter, and insanity seemed the only conceivable cause of the tragedy. This

was clearly a case of the post-paroxysmal mania of periodic inebriety.

A still more recent case was that of a man tried before Lord Young, at Glasgow, on 14th July, 1893, for shooting and killing another man, who happened to be in his room, while the former was laboring under delusions due to alcohol. He had been drinking to excess for six months, but became sane after he had been kept from drink in prison for a week. He was acquitted on a successful plea of insanity, and ordered to be detained during her Majesty's pleasure.

These, with other cases, show that the trend of modern criminal jurisprudence is in the direction of giving fair consideration to the mental state of accused inebriate persons, with a view to ascertaining how far they may have been responsible for their acts. Modern medical and pathological scientific investigation is day by day throwing a new and clearer light on many diseased brain conditions antecedent to, concurrent with, and consequent on inebriate indulgence of various kinds, gradually revealing that many intemperate criminals, who were formerly condemned as voluntarily guilty of deeds of violence, and other breaches of the law, were really involuntary offenders. When skilled and reliable medical enquirers have come to a general conclusion as to these mind-clouding, consciousness-eclipsing brain-states, the legal history of the past affords ample warrant for the hope that the bench and the bar will be found to be ready for the judicial recognition in dealing with accused inebriates, of the latest discoveries of sound pathological and psychological research.

Insanity from the Abuse of Indian Hemp.

By Thomas Ireland, L. R. C. P. and S., Edinburgh,

Government Medical Officer, British Guiana.

FROM time immemorial one of the most common vices in Eastern countries, has been the excessive use of *Cannabis Indica* or Indian hemp.

It owes its introduction into British Guiana and the West Indies to the coolie immigrant from India, who on quitting his native country did not leave his bad habits behind him, but brought with him the seeds of the plant to sow in a new land, where he has more wealth to indulge in a luxury, which even in India, is a costly one. In the East it is used by religious Hindu fanatics as an excitant to deeds of sacrifice or violence, and during the fighting in the Mutiny, it was used by some of the sepoys to increase their courage.

Mahomedans are more rarely addicted to its use, as the form of intoxication which it produces, too closely resembles the effects of alcohol, to be consistent with the creed of Islam. The vice is almost entirely confined to the male sex, although females occasionally learn the habit also.

Dr. Wise, the Superintendent of the Dacca Asylum, writing in 1873, stated that in the Indian asylums on an average between thirty and fifty per cent. of the admissions were due to the abuse of Indian hemp alone, and it has been found to be the most frequent cause of insanity in the Asylum at Cairo, where about thirty-three per cent. of the admissions are due to its baneful effects. In British Guiana fully thirty per cent. of the coolie patients admitted into the Berbice Lunatic Asylum show a history of having been habitual smokers of Indian hemp. In Egypt and Turkey the results are said to be

still worse, although in the former country strict laws have been enacted prohibiting the sale and use of the drug. In India, both rich and poor Hindus alike indulge in this narcotic, and in some of the public gardens, or on the river banks, a group of low caste natives may be seen squatting on the ground with a pipe loaded with cannabis, circulating amongst them until they can smoke no longer. In like manner in Guiana after work hours on the sugar estates, some of the coolie laborers congregate together to enjoy its effects from a pipe passed from hand to hand.

Cannabis is prepared in different forms, "Bhang" being the cheapest and commonest. This is made in the following manner: The leaves and stalks of the Cannabis Indica, which is a low shrubby plant growing nearly all over India, are ground down very fine in a mortar or between two stones. Water is added gradually till a fine, smooth green liquid paste is formed, which is then strained through a cloth. From half a drachm to a drachm is mixed with milk and sugar and then drank. Very poor people simply add a little black pepper to the drug. The general effects of this preparation are to produce quiet, pleasant delirium and stupor. Another form called "Churrus," causes excitement attended with violence. It is the dried sticky resin extracted from all parts of the Cannabis Indica, especially from the pith within the stalk. It is mostly imported into India from Bokhara, Samarkhand and Cabul. It is of a greenish black color, and resembles extract of hyoscyamus when moist, and scammony when dry. This form is the one in general use in Egypt and Turkey, under the name of "Hachich." It has a bitter taste and is smoked with or without tobacco in a cigarette or in a hookah over glowing charcoal, after having been rubbed down fine with the hand.

"Upla" or cow dung fire is preferred to charcoal when it can be got. The pill or bolus of churrus is placed on the red-hot charcoal or upla, and the smoke is drawn

forcibly through the pipe into the mouth, and then inhaled. One puff will sometimes make the eyes red and stimulate the nerves and circulation to an almost incredible degree. Four puffs make a moderate smoke, and half a drachm is sufficient for two or three men.

Cannabis is also prepared as a sweetmeat called "Majoom," in the form of a dirty greenish toffy. It is made from the ground leaves of the plant, mixed with butter, sugar, milk and flavoring matter; it is then baked. About an ounce is eaten at a time. This form is often used by thugs or thieves in India, as a poison. The last preparation is "Ganje," which is made from the dried flower tops of the cannabis. It is first rubbed to a fine powder in the hand, and then smoked in a native clay pipe, mixed with tobacco. This form is the one generally used by the Indian coolies in British Guiana and the West Indies. Great precautions have to be taken to prevent its illicit introduction into the asylums, as if a patient obtain a few seeds he may sow them in a retired part of the grounds, which he is able to get at occasionally. He will secretly smoke it, when dry, with his tobacco.

In Trinidad the effects from smoking cannabis were so flagrant among the coolies, that its cultivation and sale have been entirely prohibited by heavy penalties.

All the forms of Indian hemp act powerfully on the brain and spinal cord, although its use may be continued for years, if taken in moderate quantities along with sufficient food, without its injurious effects being noticed to any marked degree, but if persisted in, they will inevitably produce some form of mental disorder. An alkaloid cannabin has been extracted, which is said to have a paralyzing effect on motor nerve fiber, and also to act on the sympathetic nervous system, sometimes arresting the secretions of the salivary gland and liver, and more rarely of the skin. The first effects of cannabis are those of an excitant, increasing the appetite to a marked extent, and stimulating the circulation.

There is an indescribable sense of happiness, a tendency to laughter, and violent muscular effort. Sometimes the person feels as if he were rising through the air, and be impelled to dance or sing. Both after drinking Bhang, and smoking Churrus or Ganje, there is a feeling of dryness and burning in the throat, as often follows the use of belladonna. Occasionally the breathing is oppressed and cases of catalepsy have been known to occur. When taken in larger quantities, cannabis acts as a soporific, producing pleasant dreams and a mild hallucinatory state. After it has been used for a time, a craving like that for opium is established, and the victim when unable to obtain it, becomes restless, depressed and unfit for any work. As most of the habitual Ganje smokers on the sugar estates in Guiana had probably learned its use before they left India, it is difficult to obtain a reliable history of such cases after they become really insane. The habitual smoker is usually an inveterate liar, and like a drunkard, at first attempts to conceal the habit to a certain extent, though it may eventually become known to all his neighbors. As he gradually becomes more addicted to the vice and indulges in it more openly, the first symptoms of mental derangement begin to show themselves. He becomes idle and careless, he neglects his field work, his earnings decrease and his diet naturally becomes more scanty. All his money is spent in purchasing Ganje, which he uses in gradually increasing quantities. The first unequivocal sign of insanity, may be either of a maniacal or melancholic character, and of a more or less acute type. The maniacal condition is the most common and is generally associated with delusions and hallucinations of sight and hearing. The patient is constantly restless, waving his arms, throwing himself about, running to and fro, shouting and singing. Occasionally he makes attempts at violence or homicide. He sometimes resists taking food, and at other times eats ravenously. This condition may pass off rapidly, and the patient recover, but after two or

three such attacks he may become stupid and apathetic or rapidly fall into dementia. Occasionally there is a state of chronic melancholia, with emaciation, impotency, loss of memory, and general weakness of mind; food, however, being usually well taken. The acutely melancholic state is rather rare, but the writer has seen patients who were actively suicidal under the influence of strongly fixed melancholic delusions and hallucinations. Food is then refused entirely, and even when tube-feeding is energetically pushed, the patient becomes rapidly emaciated. Sometimes the artificial feeding is resisted and at other times submitted to. The melancholic type is usually amenable to treatment, and mostly occurs in thin anæmic subjects, who have probably been half-starved owing to their idle habits, for some time prior to their admission into the asylum. In most maniacal cases also a certain degree of muscular atrophy is present, and in a few there is muscular tremor with exaggerated patellar and skin reflexes.

Overindulgence in Bhang or Churrus, in India, sometimes produces a mental state corresponding to delirium tremens, and when the patient is entirely deprived of the drug, he may become violently excited. He talks incessantly, attacks other persons, bites and destroys his clothes. There is great hunger and thirst. The skin becomes hot and dry, without any marked elevation of temperature. The patient is restless and sleepless.

The only naked eye pathological changes yet observed in the bodies of patients who have died in a state of dementia, due to repeated attacks of insanity from this form of intoxication is emphysema of the lungs. Asthma is undoubtedly more common among Ganje smokers than amongst the general coolie population.

After the subsidence of the acute symptoms, there is often a rapid improvement in the bodily condition. Nocturnal restlessness is best controlled by chloral with opium, bromides or iodides. Sulphonal has been found unsatisfactory, A full diet of milk food is generally given, also

soup and other animal foods when necessary, with out-door exercise and cold bathing. As convalescence advances a little light work is prescribed, if the patient can be got to do any. In first attacks the prognosis is usually hopeful, but as such patients, like drunkards, are liable to relapse into their former habits after being released from the asylum, a second attack may be confidently predicted, followed by others until the patient becomes demented, and returns to the asylum as an inmate for the rest of his life.

The following cases may serve to illustrate the more extreme forms of mental disease due to the abuse of Indian hemp:

Case I. — *Homicidal Mania.* — Buldeo, male coolie, native of Bengal, unmarried, age 30, was admitted from the prison in New Amsterdam, where he had been about two months, to the criminal lunatic ward of the Berbice Asylum. Three months previously he had murdered his comrade with a cutlass, and being certified as insane, his trial was barred. When he first arrived in the colony from India about seven years before, he refused to work altogether on the estate on which he was indentured. He shammed illness, and cut and gashed his feet with broken glass so as to produce sores. From the outset he smoked Ganje in considerable quantities, and was constantly irritable and quarrelsome. When at work in the cane fields he threatened the gang driver. He occasionally did a little work, but several times deserted the estate without leave, and was imprisoned in consequence. For several years up till the time of the murder, he kept in much the same mental state. Once after deserting his employment, when caught and brought back to the estate by the police, he told the manager that he had been away gathering sticks. Another time subsequently, he threatened to kill one of the drivers, who had not given him any particular cause of offense. After living in the same hut with another coolie for six or seven months, he quarreled with him over some trifling matter about cooking. They made it up, and sat down to eat their food in an apparently friendly manner. Afterwards they both went to sleep, and between ten and half-past ten o'clock, Buldeo got up,

seized a cutlass and attacked his sleeping companion with it, inflicting four or five severe wounds on the right side of his face, entirely dividing the lower jaw, cheek, and right eye. He then ran out of the hut and left the estate, but was caught after three days hiding in the brush by the police. The injured man was taken to the hospital, where he died in three days. At the *post-mortem* examination a large dose of opium was found in his stomach; he was said to have been a habitual opium eater. A brother of the murdered man had committed suicide by hanging because he could not get Ganje. When taken to prison Buldeo was restless, and excited, talking to himself at night, and apparently suffering from visual and auditory hallucinations. He gradually became quieter, but was irrational in his behavior, and evidently not responsible for his actions. He was kept under observation for some weeks, certified as insane and sent on to the asylum. On admission, on 21st May, 1891, he seemed dull and depressed, pale and anæmic. There was marked loss of motor power in both legs, which he moved in a spasmodic manner, and there were twitching tremors of the muscles, which were slightly atrophied. His knee-jerks were exaggerated, but ankle clonus could not be brought out. The tongue protruded with a little difficulty, and was tremulous at the tip. On the day after admission he still appeared to take little interest in his surroundings. When questioned be became slightly excited. He spoke freely of his former life and habits, but denied all knowledge of the murder. He stated that he had been persecuted by a black animal like a dog, which he struck with a cutlass. He said that he wanted Ganje and could not do without it. When given tobacco he chewed and swallowed it. He complained of stinging pains in his feet and legs, on which old cicatrices and scars could be seen, the results of his habits of self-mutilation. A week later there was less appearance of depression, and there was some improvement in his general condition. He had occasional fits of talkativeness and kept constantly asking for Ganje. He still complained of the pains in his feet and walked with some difficulty. He was then put on ten-grain doses of iodide of potassium, thrice daily. Up till the present time the patient has continued to improve gradually, but still exhibits impairment of memory, and is irritable and childish. He denies all recollection of

the murder, and exhibits a considerable degree of cunning in trying to get tobacco from other patients. He walks without difficulty and does a little light work, but shows very little energy. The patellar reflexes are now almost normal.

Case II.—*Acute Melancholia with Attempted Suicide.*—Phagoo, male coolie, married, age 40, native of Bengal, was admitted into the asylum on 8th April, 1892. His wife stated that he had smoked Ganje regularly for eight years, sometimes spending as much as three or four shillings a week on it. When admitted he was very violent, restless and noisy, and constantly attempting to escape. While being examined he twisted his shirt collar round his neck and tried to strangle himself. He was melancholic in appearance, and stated that some persons wanted to injure him, but he did not know their names although he recognized their voices as those of coolies on the same estate as himself. When talking of his delusions, patient became excited and restless, moving about the ward and pushing up against other patients as if to escape from his imaginary tormentors. His memory seemed unimpaired; but his language was incoherent and rambling, and his gestures wild and excited. He was thin and wiry and showed a total absence of fat. His reflexes were normal. Bowels were constipated and tongue furred. He took food fairly well. The following night patient tried to hang himself by tearing his sheet and tying a strip to one of the jalousies of his single room. He was detected by the night attendant in the act of tying the other end round his neck. The following night he was still restless, and much excited by his melancholic delusions. Large doses of chloral and bromide failed to make him sleep. On the doses being still further increased the next day, he slept well at night. On the night of 4th May, he had two fits of an epileptiform character, struggling and foaming at the mouth, according to the night attendant's account, although on both occasions he had come out of them before the medical officer was summoned. On the 10th May, he was wildly excited and intensely melancholic, yelling out as if in great fear, and running about the ward. Up till the 26th he gradually became quieter, but on the 28th he again tried to hang himself, tore his bed clothes and became excited and noisy. After a quiet interval, he

made another attempt at suicide by means of his sheet, but was less excited than on previous occasions when detected. On August 19th, he had made no further attempts at suicide since last noted, but was still very irrational in his behavior, though his melancholic delusions were in abeyance. He had gained flesh considerably. He has continued to improve gradually up till the present time, but has still a melancholic expression and is restless and irrational. He takes no notice of questions, but does whatever he is told. On an attempt being made to photograph him, he struck all sorts of curious attitudes, and made faces at the camera. He is still thin, but eats heartily. He refuses to do any work, walking aimlessly about the airing court.

Case III.—*Chronic Dementia.*—Booka, age 34. Bengalee coolie, married, was admitted on 17th February, 1887. He had a history of having smoked Ganje for several years before admission, and had suffered from two or three attacks of acute mania of short duration, not necessitating his confinement in an asylum. When admitted, patient was very restless and much excited, shouting out constantly that he was hungry, that he wanted Ganje, and taking no notice of what was said to him. He refused to work, but ate ravenously. He has kept in much the same restless condition ever since, and is very noisy at times, using abusive and foul language, and calling out for food immediately after his meals. His appetite is enormous, and he is very dirty in his habits, both by day and night. When the writer left on the 22nd June, he was still in the same condition.

Report on Diseases of the Mind and Nervous System.*

By Curran Pope, M. D., Louisville,

Clinical Professor of Diseases of the Mind and Nervous System and Electrotherapeutics, Louisville Medical College; Consulting Neurologist to the Louisville City Hospital; Member of the Pan-American, Mississippi Valley, Kentucky State and Jefferson County Medical Societies.

Mr. President and Gentlemen:—Your reporter upon the "Progress of Diseases of the Mind and Nervous System" has found his field one of exceeding interest in the past year. The intense intellectual activity that has marked the progress of medicine generally has not been absent from this important branch. Physiologists, pathologists and clinicians have yielded us a rich harvest.

The subject of chronic diseases has received more attention, in the opinion of the writer, in this year, than in any year of the last decade.

Functional diseases have this year also received that merited attention of which they are always the recipient, and such obscure diseases as myxœdema and exophthalmic goitre brought within the range of curability.

In neurophysiology, Helmholtz and Herning are contending for the supremacy in the psychological field for their respective color vision hypotheses. Wundt and Helmholtz rival one another in the attempt to demonstrate *the visual space;* while Dr. Ayers contends that the semicircular canals have no functions at all.

Luciani (reviewed by Sepelli), after eight years of laborious work, gives us the results of his investigations upon the cerebellum. He says, "that the cerebellum is a central organ which is functionally homogeneous," and is not an aggregation of organs to each of which can be

* Read before the Kentucky State Medical Society, May 10th, 1893.

assigned a different and distinct function. His experiments upon animals show no material alteration in the senses, instincts and intelligence, thus harmonizing experimental with clinical observations.

There was no paralysis of the senses, or movement of sensorial, intellectual or volitional functions. Briefly stated its functions are sthænic, tonic and static-neuro-muscular power. The balancing or equilibrating function seems secondary to cerebellar tonicity.

Bassett calls attention to the various paralyses that occur after acute infectious diseases and points out the clinical fact that they are not all of the so-called organic type, but believes they are in reality local, diffused or multiple neuritides, though he is careful to give the organic cases their full and just due. A large number are toxæmic, due to poisonous organisms directly or indirectly, but not necessarily giving rise to inflammation of the brain, nerves or cord. They are to be treated in early stages, with bicarbonate of potash, mercury and salicylate of soda; in later stages with tonics, as iron, quinine, cod liver oil, arsenic and fresh air, together with massage, electricity, and hot douches.

Bunnuzi, by flexing the legs upon the abdomen, has stretched the spinal column in tabes, increasing the respiration and circulation, relieving the pains and improving the gait. During the last year the subject of "Acromegaly" has received marked attention, and the question as to whether the enlargement of the hands, head and feet are due to the enlargement of the pineal gland has been discussed both *pro* and *con*, and the dizziness, tinnitus, pain and general discomfort have likewise been laid at its door. Treatment, symptomatic purely.

Phelps draws an analogy between "Hereditary Chorea and General Paresis," adducing cases and *post-mortems* to support his statements. This adult disease, commencing insiduously and increasing slowly but steadily, is characterized by choreic movements and has a strong and

effective tendency toward mental weakness, irritability, dementia, and inevitably toward exhaustion. In nearly all cases the hereditary tendency may be traced.

Lisle reports two cases of epilepsy in which barium chloride C. P., one-eighth to one-half grain doses, was used with good results. He remarks that barium has an action similar to digitalis and ergot and on this, bases his therapeutic use of the drug, while Halle entertains us with the information that he has discovered the bacillus of epilepsy! Kelley has relieved a woman, aged 64, suffering from convulsions, by simply compressing the carotid with his thumb. (An expedient often tried before without success.)

Casciani has used quinine in severe cases of hystero-epilepsy with uniform success, in doses from twelve to fifteen grains, and according to the report the attacks "are cut short at once and definitely (?)." The bisulphate is preferred.

Engel describes a new form of nervous disease, under the title of "Dementia Epileptica," a disease of childhood, in which the patient is healthy until its ninth to fourteenth year and is then simultaneously affected with epileptic convulsions and mental impairment. The attacks are of unusual severity, duration and frequency. The patients thus affected are well developed physically (differing in this respect from idiots) while mentally ill-developed. They can talk correctly but are sulky and vicious. The mind retrogresses while the passions, vices and immoral ideas become more and more licentious. They are prone to maniacal attacks, and under the bromides the fits lessen, but the maniacal attacks increase. The cause of the disease is an abnormal formation of bone structure. The bone loses its outer and inner laminæ and its deplœ resembles chalky matter, and in consequence the fontanelles and sutures close prematurely. The cranium is abnormal in shape, its dimensions are narrower and it presents depressions and flattenings where it should be vaulted. The treatment is linear

craniotomy, and the author, speaking of its results, says:

> Diagnosis having been established, improvement, rapid and often miraculous, following linear craniotomy may be guaranteed. The operation should be done at the localized seat of the trouble which will generally be found within an area whose center is the junction of the coronary and sagittal sutures. The line between the trephined openings is sawed. Strict asepsis is a *sine qua non.*

Constantine Paul claims excellent results in the treatment of neurasthenia by injecting an extract of the grey substance of the brain, while Hammond has likewise by a special process obtained an extract for a similar purpose.

Seguin discusses the relation between eye-strain and cerebral hyperæmia, under the title of "Cephalic Paræsthesiæ." He discredits "Cerebral Hyperæmia" (Hammond), "Congestion of the Base of the Brain" and such "fanciful vasomotor pathology," and states that he believes "such cases have never been cured by these means alone."

His etiology is (1), "Eye-Strain" (the largest credit is given this); (2), "Dyscrasic Conditions, as Oxaluria, Lithæmia, and latent Gout or Conditions of Suboxidation;" (3), "Anæmia;" (4), "Origin of Organic Disease," and (5), "Extra Cerebral Lesions, as Spinal Irritations." The symptoms are those commonly associated with neurasthenia. Eye-strain may produce unquestionably paræsthesiæ, and the resulting symptoms remain unrelieved by glasses, as the reviewer has seen on more than one occasion. A common-sense therapy is hygiene, tonics and correction of ocular defects.

John Ferguson, in an article of unusual merit, calls the attention of the profession to the subject of tendon reflexes, remarking that it is well known that muscle tone is due to a normal and healthy nerve connection with its spinal center; that this is stimulated by the cerebellum and controlled by the cerebrum. Loss of cerebellar influence by disease causes loss of reflexes, and the loss of cerebral control causes increase of

reflexes. He shows in an interesting manner that exaggerated reflexes are not always due to descending degenerations. In diphtheria the loss of the knee-jerk in the early stage is, in his opinion, a valuable differential diagnostic point. In a later article he locates the center for the knee-jerk in the fourth lumbar segment.

In the following table I have summed up his experience with the knee-jerk:

LOST.	INCREASED.
Diphtheria.	Spastic paraplegia.
Supervenosity.	Ataxic paraplegia.
Total transverse lesion.	Multiple sclerosis.
Cerebellar damage (by tumor).	Concussion.
Coal gas poisoning (2d stage).	Alcoholism.
Cyanosis (from cough).	Bromism (impending).
Status epilepticus (after fit).	After shock.
Sleep (deep).	Cerebral injury.
	Coal gas poisoning (1st stage).
	Jacksonian epilepsy.
	Sleep (light).

Church discusses the question of vertigo due to arteriosclerosis. The symptoms are these: a man in the prime of life without previous serious illness becomes suddenly faint, has swimming in the head, giddiness or distinct gyration, darkness, and a feeling of impending death. He seeks advice of a physician, who upon examination discovers a tortuous frontal artery, an arcus senilis, a strong clanging second sound of the heart and a sphygmographic tracing of increased arterial tension, with pulse slow, urine scant, and may be a trace of albumen. There is usually fullness in the head, heat in the scalp and blurs before the eyes, predisposing to hypochondria. As a cause, specific disease, gout, rheumatism and lead infections are mentioned. Iodide of potash, in thirty grain doses, is of value, while the nervous symptoms are to be treated rationally.

Tomson calls attention to the fact that patients suffering from vasomotor neuroses are usually found in highly cultured communities, and are not dull and stupid but

keenly intellectual. Parents, the subjects of epilepsy, hysteria, morbid blushing and drink craving, may produce in the child faulty nerve habit, which an exciting cause may turn into disease, be it mental, emotional, fear, fright, or shock. He quotes cases of polyuria, diarrhea, blushing, cardiac palpitation, enlargment of the thyroid, œdema, facial blushing, and tremor. He attributes this to vasomotor disease, agreeing with Hughlings-Jackson that "all parts of the body are represented in the highest cerebral centers."

Mackenzie has treated myxœdema with success. His description of the disease is admirable and worthy of a reproduction had I the space. The treatment consists of feeding with thyroid glands, which in a short time produces a complete change and eventually a cure.

Wallace gives us his personal and professional experience of those nerve storms to which the name of migraine is given. The symptoms are a dull, heavy aching, desire for the avoidance of mental and physical exertion, coated tongue, nausea, irritability, constantly increasing pain, light-colored urine, acid vomiting, sleep and finally relief. He believes it to be due to defective or insufficient excretion of the liver and partly of the kidney. Overwork, exposure to cold, lack of skin action, tobacco, alcohol, malt liquors, saccharine food, poor mastication, etc., are causative factors. To prevent the attack, fresh food, fruit and vegetables, milk, fresh butter, meat, well masticated, without pickles, pastry, or jams, should be partaken of. Be a sparing rather than a repletive eater, with regular hours for mental and physical work. Drink large quantities of water. The bowels should be kept open. To abort an attack the food should be mostly fluid, and alkaline drinks with small doses of iodide of potash should be drunk in the morning. (In my experience this is better than many of the coal tar derivatives, as it does not cause subsequent depression. A sweat in a sweat-box, at 150 degrees, for ten minutes, followed by a rain-bath at eighty degrees, twenty pounds

pressure, for one or two minutes, is even more efficacious. I rarely use antipyrine, but prefer the dietary and water treatment). During the attack no solid food should be eaten, but alkaline drinks, such as soda-water, vichy, seltzer, or geisshubler should be drank freely and the bowels kept open thoroughly. Between times, flush the kidneys by copious draughts of plain alkaline or slightly laxative waters.

Ferguson reviews the work of others and adds his own experience upon the "Insanity of Exhaustion after Acute Diseases, etc." He states that it usually takes the form of confusion of thought and dementia, but that such names as "Typhomania, Confusional Insanity," etc., are objectionable, because it may be a mania, melancholia, or dementia. They may be caused by exhaustion of nerve centers, specific materies morbi of germ origin, non-specific poisons (as uræmia), hyperæmia, and over-active brain centers, especially the emotional. As to prognosis I quote the writer:

> In cases not the result of organic disease, it is among the most amenable to treatment of the many morbid conditions with which we meet. This should be recognized by the general practitioner in its early stages and if proper treatment were pursued we would have less chronic and incurable victims in our asylums.

Home treatment is advisable if possible. Go in to win, and be "ever careful, kind, firm, persevering, and patient in your attentions, and if possible never cause distrust." Sleep should always be secured. Equable temperature and forced feeding are necessities.

He closes with the words that every practitioner of medicine should remember and follow:

> Pray do not substitute the insanity of drugs for the insanity of disease, and I beg of all to use great care not to establish the habit of taking hypnotics among your patients.

Corning announces to the profession a new device for the cure of localized and diffuse internal head pains. A warm solution is used to cleanse the nose, remove the mucus and dilate the capillaries. Alkaloid solutions of

various drugs are introduced into the nose by means of a spray, and after five or ten minutes the jugulars are compressed by means of a pneumatic compressor. The results read like fairy tales.

The stomach is spared and the delicate alkaloids enter the circulation unchanged by the chemical products of digestion, relief is prompt, and a habit less likely to form, to which latter the reviewer begs leave to put in a demurrer.

Baker warns us of the danger of repeatedly prescribing sedatives, stimulants and narcotics, and that as nervous processes repeating themselves constitute the basis of habit, especially dangerous are the hypnotics.

The continued use of chloral, chloroform, alcohol, opium and many other drugs is exceedingly dangerous. The three factors in the formation of a drug habit are exhaustion, insomnia and pain due to impaired or unstable nerve force and improper methods of living.

Drugs for the relief of these symptoms should be prescribed with care and regard for the dangers of habitual use. He concludes by saying "He is indeed a skillful physician who can treat insomnia without the aid of drugs." At the same time Freidenreich reports two cases of lethal poisoning by sulphonal, while Dr. Boyer sounds a warning note in regard to those commonly used drugs, viz., arsenic, chloral and sulphonal. His warning, in my opinion, is timely.

Charcot, observing that patients afflicted with paralysis agitans were much benefited by railway journeys, has had constructed a chair by means of which motion similar to the cars can be transmitted.

Gilles de la Tourette, by means of a helmet, has localized vibrations to the head, and by its means has treated insomnia, migraine, neurasthenia and melancholia with success. It is constructed of concentric mobile laminæ, above which is a small tray and above this a small motor. The motor makes about 600 revolutions a minute. The duration of the treatment is from one to eight minutes.

It has an exceedingly quieting and toning effect upon the nervous system in general and especially upon the brain*

Foster, in an editorial, says of electro-therapeutics:

> Anyone who has employed electricity in the treatment of disease and who at first has not been dazzled by enthusiasm or blinded by prejudice will, we think, have arrived at the conclusion that its use rests on a safe basis and that as much can be alleged for it as for any thearapeutic measure we have at our command. To say more is to bring it into disrepute. To say less is to show evidence of prejudice.

To which the writer thoroughly agrees.

Caldwell, Morton and many others have advanced this branch during the past year. Especially has this been true of the statical form and the general recognition of the advantages of the polar method of treatment.

Weir Mitchell, Peterson, Baruch and Ransom have urged upon the profession the necessity of hydrotherapeutic measures in intractable affections. Their writings are pleas to the profession to utilize what in their hands has proved a boon to many a sufferer. Baruch thoroughly covers the field when he states what is now thoroughly well known through the writings of Charcot, Erb, Winternitz, Nothnagel and himself, that no case of nervous disease should be given up until hydrotherapy has been applied. Ordinary bathing establishments are worse than useless. Precision is needed. The duration, temperature, force of impact of the water and the kind of therapy needed for each case must be applied under the direction of a competent physician, a careful observer, assisted by trained persons.

Much has been left unsaid, and much unwritten, of the work done this year.

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* This helmet was exhibited at the meeting.

Cerebral Spastic Paralysis of Adults.*

By Manuel Carmona y Valle, M. D., City of Mexico, Mex.

GENTLEMEN, "The Spasmodic Spinal Paralysis" of Erb, or "Spasmodic Dorsal Tabes," of Charcot, is an affection which has not figured but a short time in the nosological world. In 1875 the two authors claimed to have discovered and reported a primary sclerosis of the anterior lateral tracts of the cord.

Since that time all the special treatises of pathology describe it in the same way, and in all the clinics the primary sclerosis of the anterior lateral tracts of the cord is spoken of. Unfortunately pathological anatomy has not confirmed these purely theoretical views, for in each of the autopsies made since that time the existence of the isolated sclerosis of the pyramidal fasces has not been proved. Sometimes they find the sclerosis in patches, sometimes the lateral amyotrophic sclerosis, and sometimes transversal myelitis. Charcot himself said, in his lectures in 1880, *that up to that time he had not been able to prove the primitive degeneration, in the apparent cases of spasmodic dorsal tabes.*

Dr. Pierre Marie, in his fine lectures on diseases of the spine, published last year, proposed, out of regard for his master, Charcot, as well as to prevent confusion in scientific language, to keep the name of *spasmodic dorsal tabes.* But this name does not apply to the *primitive sclerosis of pyramidal cord*, but to the arrest of the development of this fasces, consecutively with premature accouchments, or accouchments *dystociques*, when the head has remained a long time in the entrance. So that spasmodic tabes will be always a congenital disease, and never developing itself after birth.

* "Paralysis Espastica Cerebral de los Adultos." Read before the Section on Diseases of the Mind and Nervous System, First Pan-American Medical Congress, Washington, D. C., U. S. A., September 5th, 1893.

Heine speaks of it first in 1840 in this way: He called it *cerebral spastic paraplegia*, and later on Little studied it more deeply, and called it *congenital spastic rigidity* of the limbs. On the other hand, Benedict described the *infantile spastic hemiplegia* as a disease properly of early childhood, characterized by phenomenal apparitions of cerebral origin, from which succeeds a spastic hemiplegia more or less marked during life. The development of the paralyzed members is arrested, and frequently the child, sooner or later, becomes epileptic.

Strümpell is inclined to believe that this disease is due to the inflammation of the grey substance of the psychomotor centers, and calls it *polio-encephalitis*, by analogy with the *polio-myelitis* of the anterior cornuæ.

Hirt cites many cases of this disease but refuses to call it by Strümpell's name and establishes himself on the fact that the autopsies have shown that the morbid lesions are not limited to the grey substance; but that they extend also to the white substance. This opinion, which appears to be very rational, loses much of its weight when we consider that the white substance has its trophical center in the cells of the psychomotor centers. Consequently if these cells are destroyed the fibers of the white substance become atrophied, and lose their normal characteristics. In other words the lesion of the white substance cannot be primitive, but on the contrary, consecutive with the change in the grey matter.

Be it as it may, and to return to our history we can admit; first, that science actually possesses some very strong reasons for making one doubt the existence of *the primitive sclerosis of the anterio-lateral cord*, or of *spasmodic tabes*, those described in 1875, by Charcot and Erb. Second, that it is admitted to-day that *spasmodic paralysis*, in the strictest sense of the word, recognizes three origins; (*a*) a medullar lesion only; *anterior lateral amyotrophic sclerosis;* transverse myelitis or myelitis *en foyer;* (*b*), a lesion purely cerebral; *spastic cerebral paraplegia of Heine*, or *congenital spastic*

rigidity of the limbs, of Little, and finally the *Infantile spastic* hemiplegia of Benedict.

As can be seen, they therefore admit to-day that spastic paralysis is of cerebral origin; or frequently (2) congenital and due to the arresting of the development of the white substance, or better still, an acquired disease but common to early childhood.

I will now show that spastic paralysis of cerebral origin is not an affection of childhood only but can also befall adults.

Observation I.—Doctor J. G., born in Mexico, 50 years old, married, of good constitution, and sober. Towards the close of the year 1887, he operated on a patient who was a vegetable carrier. During the operation made under the influence of chloroform, the patient moved suddenly, and a drop of blood entered the right eye of the physician, which caused a cancerous ulcer to form, and which did not disappear for a long time. The pre-auricular glands, and those of the posterior part of the neck became painfully swollen, but did not suppurate. Some months afterwards, an eruption suddenly appeared on the limbs, which the patient thought was venereal, but Dr. Valenzuele, who was then in attendance on the case, said the eruption was a common one, and had not the characteristics of syphilides.

Actually there were no marks on the members, and no secondary manifestation which has since showed itself.

Three years later, in 1890, when in a village in the State of Michoacan, J. G. had an attack of cephalalgia, extremely intense, accompanied by nausea and frequent vomiting, entirely apyretic, and which disappeared abruptly after nineteen or twenty days under the influence of a treatment of iodide of mercury.

A short time after he returned from Mexico, while in his consulting-room one day, he noticed that he hesitated in speaking, and that his pen fell from his hand, and soon after his strength gave way and he became unconscious. He had no convulsions, did not scream out or bite his tongue, and after some time he returned to his occupation; but his knees were weak, and he experienced a torpor or numbness in the three last fingers of

his right hand, and the first two of the left. All these symptoms disappeared some hours after without leaving any trace. Similar attacks repeated themselves from time to time, but it has been impossible to exactly fix their number, nor the intervals that separated them. Between these attacks he experienced some trouble in tasting and smelling, temporary diplopia, and sensations of vertigo, which nearly caused him to fall down a precipice. After one of these attacks his mouth, momentarily twitched from one side in a way he could not precisely describe. After another, he became *hemiplegique* on the left side, but the movements revived and the patient recovered his health.

At last, on the 21st of June, 1891, he felt an attack coming on, worse than he had ever had, and which left him in a state where he failed to note the time from one day to another.

During the time of loss of consciousness, a period of twenty-four hours, he had some trismus, and was not able to swallow a mouthful of food. When he recovered his mind he was completely paralyzed, he could not move either of his members, and his neck also was completely immobile. The rigidity of his body was such as often attends an attack of tetanus. The lips, the tongue and the eyes being the only parts of the body that he could move freely; speech and deglutition were normal. Respiration was difficult, but this difficulty did not proceed from the paralysis of the diaphragm, nor from the respiratory muscles of the thorax, but were due to the rigidity of the contracted superior members. The fore-arms in flexion pressed down on the arms, and the hands on the fore-arms compressed the thorax so strongly that often the patient thought himself suffocating. He lost all idea of the position of his limbs or members, sometimes believing his knees to be in the air, and it was necessary for someone to touch him and remind him of his true position. Nothwithstanding this, he could feel the touch of hands, the sting of a flea, and the changes in the temperature. At first he had incontinence of urine and involuntary discharges of feces; after a time his state was ameliorated, the sense of his natural necessities returning, but it was some time before he had sufficient control to retain his urine. I saw the patient in July, 1892, thirteen months after his last attack, and his condition had not materially changed.

Never did he refuse to follow or submit to rational treatment.

I found him lying on his bed in a supine position, his night-dress covering him to the throat; his hair and beard, extremely long and thicker than I had thought, of good color; his face was animated, speech easy, but fatiguing him if he talked much. He ate admirably, his digestion was normal, he does not suffer with any pain, and he affirms that but for his paralysis he would be perfectly well.

He gave an exact account of his disease, but remarked though that he had not noted, or had forgotten, the dates of appearance, or modes of succession of the most striking phenomena of his trouble.

Any voluntary movement of the neck, arms, or knees is impossible. In examining him when nude, it was found impossible to move his members.

The arms and the fore-arms are drawn closely to the thorax, the legs being bent on the knees, the hands on the wrist and the fingers drawn together in slight flexion, are not deformed. The exaggerated pressure which at the beginning of the affection of the superior members, weighed on the thorax, and which confined the respiration, does not exist any more; but meanwhile it is not yet possible to separate the arms from the trunk, nor to place the fore-arms below the arms.

The patient believes that he has commenced to move the fingers of his right hand, but on examination, there was noticed a sort of sliding movement, so slight as to leave one in doubt as to whether it was real or apparent. By employing sufficient force, the contractures were partly overcome, but it was absolutely impossible to place the arms in their natural position.

The knees are forcibly extended, the feet completely drawn under them, and in slight rotation; the two knees drawn together with a marked tendency to adduction. It is absolutely impossible to bend the foot under the knee and consequently to seek to inquire into the phenomena of the foot. By employing force the knee can be bent under the thigh, and this under the pelvis. In this position the patient can voluntarily slide his foot on the mattress and extend the knee, but the voluntary movement of flexion is impossible. When both the knees of the patient are bent he rests some moments in this position, but suddenly they extend themselves in rough, energetic manner.

The muscles are well developed, and both sides of body are symmetrical. His sensibility to suffering and to heat are normal. Concerning his sensibility to touch, there exists something abnormal, because though the patient feels the hand of anyone who touches him, he cannot always tell if it is rough or smooth, and when touched by an object whose temperature is nearly that of the skin, does not return it easily on account of this sensation.

The sight, hearing, sense of smell and taste are all perfectly normal.

As an actual fact, in June of this year, 1893, I saw this patient, who was in the same state as when I first saw him.

This case we offer as a perfect and complete example of spastic paralysis, the same as P. Marie described in a case of arrested development of pyramidal fasces. Besides this paralysis, has appeared unexpectedly after manifested cerebral accidents, vertigo, troubles of olfaction and of taste, diplopia, facial paralysis, hemiplegia, loss of consciousness, etc.

OBSERVATION II.—*Hospital of Jesus. Bed No.* 1. *Department reserved.*—José Maria Reomero, 34 years old, of indigenous race, priest of the diocese of Chilopa, of good constitution, and of irreproachable antecedents, entered the hospital, May 4th, 1891.

He stated that he had had intermittent fevers when he was five years old, and in 1886, he noticed that he became easily fatigued from walking, but this disappeared when in repose. One night he felt a pricking sensation in his left foot, a jumping feeling in the tendons and rigidity of the knee in walking. The following day, he experienced some analogous phenomena in the right knee. In walking he dragged his feet, and his knees trembled.

A short time afterwards he noticed that he spoke with difficulty. In this state he suffered from violent cephalalgia, and had some delirium; he beleived that he had fever, but could not tell positively, as he had not taken his temperature. He was confined in a room and did not recover consciousness for fifteen days, at the end of which time he found that he was completely paralyzed

and could not utter a single word. He had a rigid neck, and could not make a movement either with his arms or kne s ; his deglutition was difficult, insomuch as he could not swallow liquids, except very slowly; he passed his urine without being aware of it, and had obstinate constipation.

Gradually he recovered his speech, but he acquired a habit of talking and writing very slowly. The involuntary loss of his urine lasted eight months, and then ceased definitely. The movements of the left arm returned little by little, and though clumsy, the arm is useful enough. The condition of the right arm is ameliorated, but its movements are limited. He has no power over his legs, and for five years has not walked a step. He has never had nystagmus, and no intention tremors in his only useful member. He is a man indifferently developed, but not feeble; his countenance is animated and of natural color; he eats and digests well. He passes his days lying on his couch. For change of position, is carried about, making but limited movements. The legs are in forced extension, rigid and in adduction. All the adductor muscles are in contraction and form a considerable relief. When the patient is on his bed he can, however, with pain bend his leg under his thigh, and that under the pelvis, but when he tries to stand on his feet he is attacked with a rigidity so strong that he is forced to give up. This phenomena, which is present every time he tries to put his feet to the floor, often comes unexpectedly when he is lying down. Many nights he is attacked with tonic convulsions so violent that the feet prop themselves against the wall, or at the foot of the bed, and the trunk is shaken up with such force that many times the patient is thrown from the bed.

The right arm is very awkward and is subject to frequent jerkings and contractions; the fingers are in semi-flexion, and he can move them voluntarily, but with difficulty. The left arm is capable of easier movements, and though slightly rigid, is however of great use to this poor patient.

Assisted to a chair before a table he can write well enough. In writing he places the right arm on the table, and with the left hand he puts the pen between the fingers of the right hand, which are in semi-flexion. In this manner he writes slowly but legibly.

The muscles readily respond to the current of electricity, and electric excitability is exaggerated meanwhile. The tendonous reflexes are extremely exaggerated in the two inferior members, and in the right arm; they are less in the left arm, but are still more marked than in a normal state.

Sensibility in its different forms is normal.

The manner of speaking in this patient is very singular. He does not forget a word or the different expressions of speech, but every moment before each word, he makes a forced inspiration; he opens his mouth and energetically contracts the muscles of the neck and the thoracic inspirators, which closely resembles the last inspiration of the dying. It could be said that the inspiratory muscles participate in the marked spasm of the muscles of the members. This manner of speaking is necessarily so extremely slow as to be quite painful to a listener. Little by little appear the phenomena of his *decubitus*, eschars forming on all the projecting angles of the body. The disease continued in this way until the patient died, April, 1893, after six years of suffering.

Unfortunately when this priest died, I was sick myself, incapable of returning to the hospital, added to which the parents opposed an autopsy, and I thus lost an opportunity to make some little contribution to pathological anatomy.

This work would be too long, if I, after each observation, dwelt upon all the considerations which each case calls forth. Suffice it to say now, and to cite this fact, that after some *prodromique* phenomena, such as feebleness of the legs, a twitching of the tendons, pricking sensation, etc., there appeared difficulty of speech. Suddenly the patient succumbs to well defined cerebral troubles, intense cephalalgia, loss of consciousness, delirium and perhaps fever.

The picture changes, and he remains a spastic paralytic, perhaps to a greater extent than the subject of the preceding observation, because, added to the paralysis of the four members, comes the *disphagia* and trouble in speech. Dr. G.'s paralysis was more complete and more lasting, as in the present case, the priest

recovered in a great degree the movements of the left arm, and in the right one, power enough to write, though with difficulty.

The following observations were selected from the hospital of St. André by my pupils of the clinic of the sixth year, and are cases of the more fortunate patients who recovered in a great part their movement. I abridge these observations in order not to exceed the limits of this work.

OBSERVATION III.—*Hospital of St. André.*—Joseph Barragan, 28 years old, of vigorous constitution, entered the hospital, 1st Feb., 1892. No hereditary predisposition; two sons of good appearance, and had two others still-born. He has had eruptive fevers common to childhood, and intermittent fevers. He became a soldier when nineteen years old, and one year afterwards he had the first appearance of syphilis, followed by soreness of the mouth and pharynges; some rheumatic suffering, and later on an exostosis of the right clavicle.

In 1888, when 23, he was thrown from a horse, falling on his side, but not, he assured me, striking his head, and though stunned, after resting a little, was able to remount his horse.

Eight days after this accident he had a great dispute with one of his comrades, and the next night while in the line of duty was exposed to the cold and rain.

That same night he was seized with intense pain all through his head, which increased so that he was obliged to go to bed. The following day, early in the morning, he noticed that his right leg felt clumsy and trembling, and little by little *parésis* invaded the arm on the same side. Afterwards the disease reached the face, the mouth was drawn to one side, the eyes being turned, causing diplopia. The following day hemiplegia was complete, and he lost power of speech, which he regained after some hours, but speaking slowly and with difficulty.

In this state he was brought to the military hospital, where he remained for two months, submitting to iodide treatment. He left perfectly cured.

He left the service and became a pork-seller, which business he plied for two years, not being in perfectly good health. In seven months, without known cause, he was again attacked with the same troubles, but this time

he remained at home, carefully attended, but the disease grew worse and worse. Paralysis of the right leg became more complete, and rapidly the left leg also was attacked. Sensibility left perfect. From the beginning the paralyzed members were taken with spasms, and muscular rigidity appeared inside the thighs and back of the legs. The only symptoms which were not lost in leaving him were strabismus and the twisting of the mouth. His speech remained slow.

In this state he entered the hospital of St. André, at the date above mentioned.

When we examined him he had spastic paralysis, more characteristic in the two inferior members than the superior, the paralysis being more marked in the former than the latter. He could not stand on his feet, owing to the tremblings and rigidity of the legs which the effort induced. The right limb was helpless, rigid and in a semi-flexion; the fingers less bent, were more pliable. He could not take hold of an object without difficulty and then the arm was seized with tremblings. The pupil who took this observation described these movements of intentional tremblings, as *sclerose en plaques.* But after examination, he was shown that these movements had not the characteristics of that trembling, but were rather the trepidation seen in cases of exaggerated tendonous reflexes. To avoid repetition I will not attempt to point out the exaggerated contractiveness of adductive muscles of the inferior extremities, nor their position, nor to detail the exaggeration of all the tendonous reflexes in each of the affected members I must, however, mention that the left leg, though a little weak, was capable of all the movements, the only useful member to the poor fellow.

In each of the diseased members electric excitability was clearly manifested and exaggerated.

The sense of touch, of pain and of temperature was normal, but the muscular sensibility was a little impaired. He had a clear idea of the position of his limbs, but he had no idea of their weight.

The patient remained at the hospital nearly a year, and though he walked with much difficulty, left in nearly the same state as when he entered.

Observation IV.—*Hospital of St. André,*—Jean Cararantes, 30 years old, employed on an engine, without hereditary predisposition, of the middle class, not addicted

to drink, nor ever had either venereal or syphilitic affections.

He had had pneumonia and some other febrile diseases which he could not specify.

On the 24th of April, 1890, he experienced suddenly a sensation of weightiness in the left shoulder which forced him to lean against something, and afterwards, to sit down. Not being comfortable in this position, he laid down. This trouble lasted but a short time, but since then it has been repeated many times a day, and at the same time the left limb becomes extremely rigid and is in such marked extension as to render walking impossible. Thus he passed six days with these attacks coming and going frequently. On the seventh he felt the same weightiness in the right shoulder but the limb on the same side was less stiff. On the 4th of May, in the morning, he was taken with shivering and trembling which was followed by high fever and delirium and which continued all through that day and night. On awakening on the morning of the 5th, he felt so much clearer that he wanted to rise, but to his surprise was unable to, being completely paralyzed in his four members. Not only was he prevented from getting up, but he was unable to feed himself. Three days after, he felt a pricking sensation in his left limb, followed by involuntary movements. These same symptoms rapidly appeared in the right limb also. The arms which were also attacked with involuntary movements the first days, rapidly recovered their voluntary powers, but the limbs remained helpless. Fourteen days after, he left his bed and tried to take a few steps, but was obliged to have the assistance of two persons, as his legs were rigid and he could not keep his feet from dragging along the floor. Sensibility was normal.

He remained in this condition, without marked change, until August, when he was then a prey to absolute insomnia for ten days, which was followed by general convulsions and complete loss of speech. The convulsions were arrested, but returned from time to time, every half-hour or two. In this state he remained for two days; the third, he lost consciousness for some hours, which he regained little by little, recovered his power of speech fourteen days afterwards, his paralysis remaining as before.

In September he had a fresh attack of general con-

vulsions, but this time less violent and he had no difficulties of speech, nor did he lose consciousness. He remained at home without any further troubles except his inability to walk, and in February, 1891, he entered St. André's Hospital. We were then able to thoroughly examine the spastic paralysis. The limbs were rigid and in adduction. If one leg was lifted and let fall, it fell across that of the opposite side; the tendonous reflexes were very much exaggerated; the electric excitability marked, the *sphincters* normal. There existed a curious phenomena which revealed the exaggerations of some cutaneous reflexes; if during micturition one of his thighs touched the vessel, the sensation of cold so provoked the arrest of the act that urination could not continue for some time and without some effort. Barring this accident, micturition was satisfactory. In trying to walk, assisted by two persons, the limbs became stiff and were disturbed by trepidary movements. He dragged his feet, taking very short steps, and as he advanced, placing one before the other.

The superior members could make their movements, and sensibility in all its forms was physiological all over the skin.

On being brought under the influence of iodide of potassium his condition was ameliorated little by little. He commenced walking with the aid of a roller chair, then with crutches and finally with a cane. In this state he left the hospital in August of the same year, and continued unchanged until the 17th of January, 1892. On that day he had severe shivering fits, followed by fever and sharp pains in the loins. The fever continued many hours, then ceased, returning the next morning at seven o'clock and disappeared at eleven that night. For this reason he returned to St. André. On giving him a little quinine the fever rapidly disappeared. He walked at that time with a little more difficulty than when he left in August. He was given the iodide treatment anew, some calomel, and a blister put to the nape of the neck.

Under this treatment his condition was gradually improved, until he could manage to walk without a cane, but with very short steps and his limbs kept stiff. In this state he left the hospital of St. André, November, 1892.

In January, 1893, he entered the Hospital of Jesus in about the same state as when he left St. André, but under the same treatment as we had administered, he

improved. His steps were longer, but the limbs remained stiff in walking and he could not bend the knee without pain.

In April he left the Hospital of Jesus and since then we have lost sight of him.

OBSERVATION V.—*Hospital St. André.*—Augustin Barron, born at Veta-Grande, 30 years old, merchant. No nervous affections in any of his ancestors. Of good general health, but a little impaired by over-indulgence in alcohol and the sexual relations. He had had some venereal troubles but no marked manifestations, there being no *pleiade ganglionnaire*, nor marks on the neck or the skin.

Late in December, 1881, one day, after a hearty meal, he felt slightly indisposed in his stomach, but paid no attention to it and went to bed. He did not know whether he had any attack in the night, but in the morning he was taken with severe pain in his head and vomited the food he ate the night before. Moreover, he was completely paralyzed and could not move any of his four members. The mouth was drawn to the right side, but intelligence and speech were normal.

It has been impossible to obtain the precise dates of the different troubles in the course of this disease, but the patient said that the movements rapidly appeared in the right side, but that the left remained paralyzed for a longer time, until the middle of February, when he was able to resume his occupation.

He continued in his abuse of alcohol and coition, and in 1883 he had a fresh attack closely resembling the preceding one. This time cephalalgia was much more intense and lasting, the vomiting spells more obstinate. The mouth was not drawn to one side, but paralysis was general.

On being taken to Zaccatecas in a carriage he saw objects double. Arriving at the city he recognized persons who knew him, but some hours after he entirely lost consciousness, which he did not regain for two months.

He did not know any of his family during this time, but was conscious of the fact that he had a blister on his abdomen and that his hair had been cut, which was done because of sores on his head. Fifteen days after having regained consciousness he commenced to try to rise,

aided by persons, as an absolute loss of power in his left limb made it impossible for him to walk. The right arm and leg had all their movements; the left arm was feeble but the movements comparatively easy: the leg on that side completely helpless.

Our patient returned in a carriage to his native village, and little by little the power of his left leg returned until cure was complete.

Three years after, in 1886, he had another attack like the preceding ones, but of less intensity and shorter duration. From that time until 1890 he had some little attacks, as he called them, which consisted of sudden stiffness in the right leg and arm, accompanied with a sensation of heat and cold, some tremblings, and above all, the rigidity and jumping sensations in the limb.

These symptoms lasted one or two days and then completely disappeared.

One day in the year 1890, he noticed that in rising his movements were very difficult, and he resolved to go to Aguas Calientes to take the baths. Not feeling benefited after remaining eight days, he concluded to return to Veta-Grande, where, on awaking in the morning, he found himself completely paralyzed in all his movements, even his head. In this condition he remained for eight days, after which he gradually recovered the use of the movements in the neck and on the right side. Later on, he regained the use of his left arm, but from that time up to April 20th, 1892, he has not walked, owing to the entire helplessness of the left leg. He noticed that since then that member has remained completely rigid; that this rigidity diminishes greatly when reclining; that in this position he can bend the leg with a certain degree of facility, but as soon as he tries to put it on the floor, it extends itself strongly and with such tremblings that it is impossible for him to take a step. Frequently these spasms attack him in the same way when lying down.

The left arm is capable of all its movements, but from time to time it becomes rigid, and sometimes the fore-arm is placed in forced extension upon the arm, the first finger in pronation, the thumb in adduction and flexion, the other fingers bending under the first.

On April 20th, 1892, the day the patient entered the hospital, he gave indescribable proofs that he was in possession of all his mental faculties. He spoke perfectly

well and he moved his two superior and inferior members as a person of good health.

Reclining in a supine position, the left leg was rigid and in extension and adduction, the foot in slight extension and the big toes bent; the extensor tendons of the great toes made a great prominence on the back of the foot. The muscles of the internal part of the thigh are in contraction and form a noticeable projecture. Each movement is irregular.

If the patient is asked to bend his leg he can do so, but with difficulty, owing to the struggle with the contractures of the extensor muscles of the leg under the thigh. The execution of this movement enables us to note the preponderance of the action of the adductor muscles and of the anterior tibia, for the member is carried in adduction and the external side of the foot is more elevated than the inside. The experiment cannot be renewed, for the patient cannot repeat the movement, the contractures of the extensor muscles opposing it.

After resting awhile, Barron can bend the leg, extend it and carry it, without great difficulty, to the place directed. But we must cite a curious phenomena which was repeated more than once. If he is commanded to lift his leg from the mattress, he can easily do so the first time, but if told to repeat it, each succeeding effort at elevation is more and more feeble, until it is impossible to do it at all.

If put on his feet, the left leg becomes fixed in extension and as hard as if made of wood; the patient lifts it a little bit, inclines the pelvis towards the right, drags the sole of the foot, takes a very short step and turns the point of the foot inwards. The contracture of this leg is very troublesome during this walk, but in spite of that the paralysis is limited to that member; the patient has kept his bed constantly since he entered the hospital.

I will finish this case by saying that the sensibilities to touch, pain, to heat and cold, are normal. The electric sensibility in the paralyzed member is exaggerated; the tendonous reflexes are increased, and finally, the muscular sensibility of the feet is slightly diminished.

This patient remained at the hospital one year, and it has been impossible to modify the paralysis of the left leg. Many times slight contractures suddenly appear in the right leg, with exaggerations of tendonous reflexes.

This last symptom has shown itself also in the left arm. Three or four times the patient has been conscious of a heavy sensation in the left shoulder, resembling the first symptom in the disease of the preceding observation.

These five observations demonstrate as far as the evidence: first, that spastic paralysis can show itself in adults, consecutively with cerebral phenomena more or less serious; second, that habitually after the disappearance of these phenomena, paralysis appears more prolonged, but that, after a time, one or more of the members can recover their power; third, that the speech can remain more or less difficult, but that in many of the cases patients speak normally; and finally, that they can remain monoplegics, diplegics, triplegics or paralyzed in the four members, entirely resembling the children who have undergone an arrest of development in the pyramidal fasces.

One can discuss at length the seat, the nature and the pathogeny of this affection, but I cannot prolong this work, and besides these questions will be easily settled when we know the pathological anatomy of this morbid entity.

On the Prognosis of "Railway Spine."*

By F. X. Dercum, M. D., Philadelphia,

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A QUESTION invariably asked the expert in suits for damages in cases of railway injuries is, "Will this patient recover? and if so, how long in your judgment will it be before recovery takes place?" I know of no question put to expert witnesses which is, as a rule, more difficult to answer, and regarding which there is often such a variance of opinions. My experience does not accord with those who claim that the symptoms in a given case disappear with the award for damages. That buoyancy and exaltation sometimes follow a successful issue of the trial, and that the symptoms of mental depression, so frequently present, disappear for a time at least, cannot be denied. However, if the case be watched, it will be found that long after the trial with its excitement has passed away that the ordinary symptoms of the case persist. I have often been asked as to what treatment I would recommend for a given case, and have merely been able to answer in a general way that rest, tonics, freedom from care, would produce favorable results in time; that if the patient could be submitted to a prolonged rest-cure possibly recovery might be assured, or might take place more rapidly. A lack of opportunity to test the latter method of treatment has heretofore prevented me from giving a more definite answer. Recently, however, the opportunity presented itself. In order that there should be no question regarding the character of the case—in order that there should be no doubt or quibble regarding simulation, or improper motives of any kind, I selected for the experiment a

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case typical in character and in which there was no suit for damages.

Before relating it in detail I will pass briefly over the method of diagnosis pursued by myself in cases of this kind, and which I have already published in a paper upon, "The Back in Railway Spine."* The underlying principle of the method is to exclude as far as possible simulation or exaggeration of symptoms by the patient.

As is well known the vast majority of these cases suffer from injuries to the trunk, more especially to the back. It is the back to which our attention is almost always called, even when there are injuries to the head or injuries to the limbs. With the patient standing, or if too weak, seated, with the trunk exposed and the back turned toward the physician, the following tests are applied:

After a rapid glance at the position in which the back is held, at the relative amount of curvature, at the differences in level of the two shoulders, at the presence or absence of muscular tremors, the following tests are performed:

First, palpation. The hand being placed slightly upon the back the patient may or may not shrink. This symptom of itself counts for very little. It may indicate either the presence of a genuine hyperæsthesia, or of a disposition to simulation. If hyperæsthesia be present it is probable that we will find hysteroid symptoms as we proceed to study the case. The symptom by itself, however, as already stated, is of little value.

The second test is by pressure. This I divide into superficial and deep pressure. My method of applying superficial pressure is as follows: I pass the finger-tips, or the palmar aspect of the thumb gently down over the spinal column, being careful to exert but a slight degree of pressure. As is well-known this test elicits in certain cases a flinching or other reaction as though pain were experienced, especially when we press over an area in

* *American Journal of the Medical Sciences* for September, 1891.

the lower cervical, mid-dorsal region, over the dorso-lumbar juncture, the lumbar region itself, or over the end of the coccyx. The significance of this symptom I will not dwell upon now, but it is one which we all know is very commonly found in neurasthenia, especially in that form known as spinal irritation, and, also in hysteria when the latter affection complicates neurasthenia. The next test is deep pressure. I now press the palmar aspect of the thumb with some degree of force upon various regions of the spine, and also over the adjacent muscles and various other portions of the back. If deep-seated soreness be present, as I have before pointed out, the patient is apt to react less suddenly then he does if simply a tender spot is touched by superficial pressure, or if there be general hyperæsthenia of the back. The soreness, if present, elicited by deep pressure, is also more diffuse, and instead of being found directly over the spine of the vertebræ is apt to be found diffused for some little distance over one or both sides. Or it may be found over the muscles in various other portions of the back.

Another test which I occasionally employ is the test by percussion. It is one of the tests that I employ when no reaction results from deep or superficial pressure, and is performed by striking with a small rubber hammer, the patient lying upon his face, a number of very rapid, though not hard blows over the spine of the vertebræ, the idea being to elicit pain not by force of the blows, but by the faint but decided jarring produced.

We now come to the test by motion. This also consists of two portions; first, the test by voluntary motion; and, second, the test by passive motion. The patient is first directed to bend forward, his back being toward the observer. The manner in which the act is performed, the amount of the motion, the stage in the act of which the patient complains of pain, the area to which this pain is referred, and finally the occurrence of muscular spasm or

rigidity should be noted. Next the patient is requested to flex the trunk to the right or to the left, and here again the character of the motion and the action of the muscles is studied. If no symptoms be elicited or if they be of doubtful character, the operator may forcibly flex the trunk to the right or to the left, the patient not being warned beforehand of what the operator is about to do. As a rule this test is unnecessary. However, the following test I regard as very important in certain cases. This is the test by forcible rotation. An assistant, kneeling before the patient, should firmly grasp the hips, while the operator, seizing the shoulders, should gently but firmly rotate the upper half of the trunk. If there be deep-seated soreness the patient will at once give signs of suffering. As I have before pointed out, this method of searching for pain is a powerful one and is only required in exceptional instances. Its special application and significance I will not pause to point out.

Next comes the test by transmitted shock. This I have also previously described. It may be practiced in various ways. The patient standing as erect as possible, the operator places both hands with fingers interlocked upon the head of the patient and then by a sudden downward pull sends an impulse through the spine. The amount of force exerted must be guided by the reaction of the patient. The spine may be so very sore that the reaction to even a slight impulse is excessive and needless suffering caused; a gentle pull should at first be given and if no response is elicited a more forcible one may be made. If it be desired to eliminate the cervical portion of the spine from the problem, the patient may be seated and the impulse be transmitted through the shoulders.

A third method is to direct the patient, if standing, to raise himself upon the toes and then to let himself fall back heavily upon the heels. This method is less valuable than the others, for a man with a very sore back can absolutely not be made to execute this test

properly. At most it should be used as a confirmation of pain doubtfully elicited by other means. I will not spend time in alluding to the various expedients, like the "double touch" for detecting malingering, nor will I recite the general methods pursued in studying the various subjective symptoms present in these cases. The above tests that I have rehearsed apply of course to the *physical condition of the back only*, and help us in the formation of an opinion as to whether there is or is not an injury to the vertebral column, ligaments, the muscles, or other structures. It is not of course necessary to detail here the methods pursued in searching for actual lesions of the spinal contents. In my own experience, lesions of the spinal contents in "railway spine" are rare and furthermore they were not present in the case which I am about to detail. The case is as follows (its early history was in part reported in the paper already alluded to):

B. W., aged 42, married, carpenter and builder by trade, presented himself at the University Hospital, December 5th, 1890. On the 17th of June of the same year, while erecting a barn, he had been struck by a large rafter in the middle of the back, knocking him down and pinning him to the earth. He was unconscious for a few minutes and later he was sick at his stomach. Vomiting recurred repeatedly during the next four days, the vomit occasionally containing blood. During this time he was not confined to the house, but continued outside directing his men at their work. He said, however, that he felt giddy and was afraid to climb to a height. His back, too, felt quite sore. About a week after the accident he began to be troubled with headache, while the giddiness became more and more marked. The soreness now spread all along his spine. His physician, who accompanied him to the hospital, said that pressure upon the spine now made him sick at the stomach, and also caused his face to flush. He was obliged to remain indoors; he was unable to collect his thoughts; could not concentrate his attention upon anything; slept badly at night; was restless and delirious. He had also become very weak.

On stripping the man, it was noticed that he held his back very stiffly, and further that there was a marked tremor apparently of all the muscles of the back. Lightly placing the hand upon the back caused flinching. Superficial pressure was now made over the vertebral spines. It was found that the patient flinched slightly as the thumb passed over the upper and the mid-dorsal regions. Deep and persistent pressure was next made on either side of the spinal gutter over the muscles of the small of the back and adjacent regions. The patient now reacted in such a manner as to convince us that these muscles were exquisitely sore. Tested by motion it was found that the forward flexion, in fact, movement in any direction, was accompanied by excessive pain and, further, by an objective symptom of great value, namely excessive spasm of the muscles. In consequence the movements were limited in extent. On attempting forcible flexion, spasm and pain were both grossly exaggerated. Transmitted shock elicited pain in the upper and mid-dorsal regions.

The knee-jerks were excessively exaggerated. Ankle clonus was present on both sides. There was also paroxysmal contraction of the tibialis anticus, sweating so excessive that it saturated his clothing; and there was also occasional flushing of the face. In addition, the patient presented various subjective nervous and mental symptoms suggestive both of hysteria and of neurasthenia. I learned afterwards from his wife that in August of 1890, some two months after the accident, he had had a convulsion. He had been growing steadily worse and less and less able to attend to his business. The convulsion came on at night and was repeated for a number of nights consecutively. They are described by the wife as follows: The convulsions usually came on at midnight, lasting until about six o'clock the next morning. They consisted of a series of paroxysms which followed each other at intervals of from five to ten minutes. The patient seemed to be entirely conscious during them. He would throw out his arms, throw back his head, roll up his eyes and stiffen his limbs. Towards morning he would fall asleep and would wake up all right again. He finally grew so bad that he remained in bed continuously for about two and a half weeks, and then went to bed, off and on, until his visit to the University. He was delirious nearly every night during this time. He would have

spasms, talk very much about the accident, and seemed to be constantly afraid of falling, and of being hurt.

From the physicial examination it was evident that the man had had a severe injury to the back. This doubtless consisted of a bruising and wrenching of the muscles and the muscular insertions. From the excessive pain present upon flexion and also upon transmitted shock it is very probable that the ligaments of the spinal column had also been strained. In addition he was excessively neurasthenic, and beyond a doubt the convulsions so ably described by his wife were hysterical in character. The case was thus a mixture of physical and subjective or psychic symptoms, and it may be looked upon as an exact counterpart of cases which every day appear as claimants for damages from railway accidents. It therefore suggested itself as an excellent one in which to test the resources of the rest-cure. However, neither opportunity nor the patient's means permitted the carrying out of my suggestion at this time. The man went home, and spent his time in and out of bed, improving a little now and then in proportion as he remained in bed, and presenting at the end of another year little or no change. He was now, January 12, 1892, admitted under my care to the wards of the Orthopedic Hospital and Infirmary for Nervous Disease (Dr. Weir-Mitchell having kindly granted me the privilege of one of his beds). His condition at that time was as follows: General fibrillary tremor of the muscles of the back and to some extent of the muscles of the arms. This tremor slightly increased on voluntary motion. There was also present excessive sweating, the surface of the trunk being decidedly wet. The back was exceedingly sensitive to pressure in the upper and mid-dorsal regions. The muscles to either side the spinal gutter were very sore. Forward flexion of the trunk provoked muscular spasm most marked in erector spinæ group. Lateral flexion produced a similar spasm. Transmitted shock elicited pain in the upper and mid-dorsal regions. All reflexes were exaggerated. Station fairly good; no bladder or bowel symptom. In addition there was present tremor of the hands and of the tongue. The hands were livid, moist and cold. His weight at the time of the accident was 147 pounds, he now weighed 129 pounds. He was, further, exceedingly weak, nervous and depressed,

and suffered greatly from insomnia. He complained also of dreaming of the accident over and over again, and dreamt constantly of falling off of buildings. His wife now told us that in September of 1891, he had a return of his convulsions, and it took at times several men to hold him; that he was conscious as the attacks were coming on and as they were passing off; that he talked a great deal about having lost a piece from his forehead, asking each person who came to see him, to try to find it, as his mind would never be right again until it was found; that he also cried a great deal, complained greatly of headache and talked continuously about putting himself out of the way.

At the time of his admission to the Orthopedic Hospital no symptoms of delirium presented themselves. The man was placed in bed absolutely at rest and absolute seclusion was practiced as regards his relatives and friends. Systematic diet, in which milk played a large part, was now adopted and massage instituted. Later on the slowly interrupted faradic current was also used. Improvement was very slow at first, no change being perceptible for several weeks. However, little by little, a gain in weight was observed, and hand-in-hand with this also an improvement in the neurasthenic and hysterical symptoms. The back, however, remained painful to a very great degree. In the first few weeks following his admission he had several hysterical convulsions; later on these ceased altogether. His general condition continued steadily to improve, but the deep-seated pain and soreness in the back persisting, the treatment was prolonged week after week and month after month, in the hope of finally subduing it. At length it began to yield, but did not leave him entirely. However, on June 25th, 1892, after over five and a half months of rest in bed, he was discharged almost but not entirely well. His weight had increased from 129 pounds to 157½ pounds. At the time of discharge, his condition was briefly as follows: No fibrillary tremors present anywhere, no tremors of the arms or hands or any part of the body. Could flex the trunk, but it was still somewhat stiff and slight pain was still present. Any attempt at marked flexion still evoked slight spasm of the muscles. Did not sweat while standing still, but slight exertion or even mental excitement brought it on. His nervousness had practically all disappeared. He slept well and no longer dreamt at night.

He said that he felt now as though he could work—in fact, that he felt now for the first time since the accident like "pitching in." This certainly suggested a marked return of energy. I impressed upon him, however, the importance of not doing a full amount of work at once, but of keeping up a partial rest-cure at home. He did so, but, notwithstanding, had a return of a number of mild hystero-epileptic seizures this spring. However, a letter, dated June 22d, 1893, tells me that he is well, with the exception of a slight soreness in his back.

The above case I believe to be extremely valuable from a medico-legal point of view, not only because of the absence of all element of litigation, but because it throws considerable light upon the prognosis in this class of cases. It will be observed that before the patient was placed under systematic treatment he failed to improve. He remained practically in an unchanged condition, and it was not until systematic and an unusually prolonged course of "rest-cure" treatment was instituted that improvement finally took place. This man, further, had every possible motive to get well. His business and family suffered greatly by his absence. His worry from this source was very great. However, he now tells me that he is again actively at work at his occupation of builder. I should add, though, that none of the manual work is done by himself.

In previous papers* I have described cases without litigation, in which little or no improvement occurred even after the lapse of years. The only case in which I have had an opportunity of testing the effects of treatment was one in which the back symptoms were similar though the hysterical symptoms were absent. In this case, although rest in bed, massage, and even a plaster-jacket were at various times instituted, and the treatment extended variously over two years, little or no improvement ensued.

However, it must be admitted that it had not been pos-

* "Remarks on Spinal Injuries."—*Therapeutic Gazette*, May 15th, 1889. "The Back in Railway Spine."—*American Journal of Medical Sciences*, September, 1891.

sible at any time to institute a systematic course of rest-cure. I am strongly inclined, however, to believe that in this instance it would have availed but little, and would not have influenced the chronic character of the case.* There are, of course, many cases in which tremor and spasm of the muscles of the back are not present or are concealed by the superficial fat. In these, flexion, deep pressure and transmitted shock, nevertheless, demonstrate the injury to the muscle insertions, ligaments and other structures.

We now consider in how far are we assisted by the experience I have detailed in answering the question, "Will the claimant recover? and if so, how long will it be before he recovers?" I have sometimes answered this question by saying frankly that I did not know. I was then asked by the Court to use my best judgment and say how long it would take under the most favorable conditions for the patient to recover. Under the most favorable conditions, generally implies a method of treatment which is not in vogue in general hospitals, which is rarely carried out as it should be in private practice, and which it is difficult to obtain, except at special hospitals. This, I think, should be made clear in the answer of the expert when he answers that under the most favorable conditions, that is by prolonged rest cure, the patient will markedly improve in about six months, but that complete recovery, if it take place at all, will not ensue for several years.

It must be borne in mind, further, that there are some cases of such great severity that probably no improvement will take place under any conditions, and also that there are others again very much milder in whom improvement takes place rapidly. Of course, the answers must be adapted to each case.

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* For a detailed report of this case, reader is referred to the paper, "A Case of Railway Back," *Journal of Nervous and Mental Diseases*, 1892.

BANQUET

IN HONOR OF THE

FIRST PAN-AMERICAN MEDICAL CONGRESS,

GIVEN BY THE

AMERICAN MEDICAL EDITORS' ASSOCIATION,

At The Arlington, Washington, U. S. A., Sept. 4, 1893.

THE PRESIDENT'S GREETING.

C. H. HUGHES, M. D., ST. LOUIS, MO.

GENTLEMEN: I take pleasure in meeting you to-night and in calling you to order.

We are in the midst of a picnic—I mean a panic, for we had our picnic last November. I am glad to meet with you to-night, *fellow-cranks*. In thus addressing you I would not have it inferred that I consider you, my esteemed and estimable colleagues, mentally unsound or crooked. I use the term in no such an invidious sense. You may think I ought to use the term in the psychopathic sense, and call you *fellow-lunatics*, to assemble at such a time as this to discuss anything but the monetary questions of mono- or bi-metalism, the Sherman law, the financial situation and the salvation of the country generally. No, fellow-cranks, the country has gone crazy over the delusion that it is about bursted, when it never was better off, in fact, than now; when people never had so much money to hide away in stockings and bury in the ground; never had better crops or finer or more stock on their farms, though corporation stocks are a little shaky.

One set of cranks up on the hill yonder (the Capitol), has the delusion that the country will go to the devil if Congress does not repeal the Sherman act; the other, that it will if it does, and tries to do without free silver. They labor under the delusion that they are Napoleons and doctors of finance. They are quacks and calamity howlers!

Fellow-cranks, it is a glorious thing to be our kind of cranks. We of the press are the cranks that move the medical, moral, political and social world, and *money is our lever.* If we only had enough of the leverage we would be all right and pass on to the goal of the world's glory, philanthropically forgetting our own. We are the cranks that turn the grindstones and grist mills of progress, outside of the Government department (we are not in it there), "change the zig-zag or shuttle motion" of the political machine into harmonious reciprocal, useful motion, and *vice versa*, "into smooth circular movement." *We make the wheels go round.* We move the steam and electric machinery of medical and moral progress. That is the sort of "cranks" we are, full of spirit, brisk and lively, as Spencer and Webster define us to be.

Without disparaging the Herculean labors of the Secretary-General and others, I may safely say the Archimedean lever which has lifted this First Pan-American Medical Congress of the Western world to the mountain top of professional appreciation has been the medical press of America; but, in this connection, we must not omit courteous recognition of the aid of the secular press. Its hand, too, has helped us. Without the unfaltering courage and manly fidelity of our craft to this Congress, it must have sunk under the weight of the present financial stringency and depression, and proved a dismal failure. But, gentlemen, we turned the crank of our influence in the right direction and secured the success of the First Pan-American Medical Congress, under the most discouraging circumstances. We are the cranks by which the current of the world's best blood of mental life is made to flow—the cranks of which Shakespeare speaks when he refers to the food as being sent

> Through the rivers of your blood,
> And through the cranks and offices of men,
> The strongest nerves and small inferior veins
> Of the great body of the world's thought and action.

From us the world's medical people "receive that natural competency whereby they live."

The ends we aim at are those of the highest literary and scientific principles. They are God's and Truth's. With editorial microscope, test-tube and crucible, we look, through Nature, up to Nature's God, and see the source of all power manifest through the primordial and developmental cells, solving all the principles of growth, waste and decay in the human organism. As the astronomer sees an omnipotence in the laws of movement of the shining orbs of heaven, so we see remotely law in the combining of the elements and movements of organism. We are the sanitary weather prophets, that give the people warning and health forecasts. "*Salus populi*" is our motto. "*Salus populi suprema lex esto*" is the motto on the escutcheon of my native State, and it is the accepted principle of our republican government, and of all government of the people, for the people and by the people, under our estimable and just political system. In the hearts of all loyal Americans, *vox populi* has the force, and is fairly expressive of, *vox Dei* for the nation's enduring welfare and perpetual safety, and the prayer of every American heart is, *esto perpetua*. I would paraphrase this and say, *sanitas populi suprema lex esto*. [Applause.] The health of the people is intimately blended with their welfare, and it is the medical press that proclaims health to the people and will perpetually secure the healing of all the nations. The *sanitas* is the *salus suprema populi*. Without health, mentally and bodily—and the former is dependent on the latter—nations hasten to decay. The ill health of the two Napoleons lost to France her military prestige.

> Ill fares the land to hastening ills a prey,
> When wealth accumulates and men decay.

When Rome was in perfect health she ruled the world; when the stalwart, robust, healthy arms of her soldiery, undegenerated by the diseases and decay which followed the luxury of conquest, carried her victorious eagles, the

world acknowledged her sway. Then "to be a Roman was greater than a king." They had strength in their psychomotor, ganglionic and spinal centers, and power of organic reconstruction. Their physique—cerebral and muscular—inspired to valorous deeds and to the grandest thoughts. Her statesmen, her jurists, her lawyers, her poets, her physicians and her philosophers, who have left any precept worthy of being treasured or any example worthy of being followed, were men of health. The deeds and doctrines of her philosophers, her doctors of medicine, her doctors and teachers of morality, of law, of philosophy, of war, have left no such lesson in them from the days of her decadence, except the lesson of calamity and its causes, the diseases to be warned against. And so it has been with every nation that has risen and fallen into decadence or has been blotted out from the pages of later history since Rome's ignoble decline and fall. Since then the subdued barbarians of her ancient borders, profiting by the lesson of her decadence and the diseases incident to her downfall, have supplanted Rome with a healthier and sturdier race.

We have learned what this physical and mental decadence means. The modern Germans were the sanitary cranks that turned the tables back on ancient Rome and kept the wheels of progress steadily going forward until the German Empire has become one of the foremost of the nations of the world, all because they were not permitted to fall into luxury and consequent decay. She had not the opportunity to lose the rich red blood of her ancestors through conquered indolence and luxurious ease. And so long as a wise medical and secular press can keep the standard of her people's health high, she will maintain her military prestige and her honor. So it will be with America.

The tri-color of *La Belle* France will likely never again defy the thunderings of the world's artillery as in the days of the great Napoleon. Never, either through diplomacy or the power of her arms, *except in the*

possibly returned vigor of renewed mental and physical health, such as enabled the great Napoleon to direct, and his soldiery to achieve, the scaling of the Alps and fight and win victories by descending from the clouds. So it will be with us and with every nation.

The courage of the American Revolution, its audacious Declaration of Independence, its vigorous and successful resistance to the British arms, were the courageous physiological expression of the fearless blood and brawn of health that inspired them to think and dare to do with Herculean strength for the right. If you would make a people great and glorious in the arts, in sciences, in literature, in morals, in arms, in high-minded men that constitute the safest and best guardians of a State, give them good health, encourage their physicians to be great doctors, not mere nurses and apothecaries, and your medical journalists to be broad-minded, fearless men, in proclaiming the truths that constitute and contribute to the sanitary welfare of mankind, and make men great and women fair and good.

Now, as a physician, a practitioner of the healing art, a teacher of medicine in school and with journal, I dare to proclaim that the wisest and best thing this Government can do, both for its present and future welfare, for its perpetuity and growth among the nations, the most powerful, most beneficent and grandest of governments, would be to create a Bureau of Sanitation [Applause], not merely to keep out foreign epidemics of contagious diseases, but a psychical and physical sanitation of the many forms of disease of body and mind known to science and modern medical progress, and recognize the profession of medicine as it does that of law, of agriculture and arms, by giving the most distinguished and capable of its votaries a proper and deserving place in the Cabinet of the Nation. [Applause.]

It is now my painful duty to introduce to you the chief chutmuck of this great family of cranks, the charming, the accomplished, the lovely daisy symposiarch of

the evening. He comes from the wild and woolly West, where he holds the *Medical Mirror* up to nature and lets his contributors do their own reflecting. It would be a reflection on *him* to say that he reflects much himself, when he can get anybody else to do this business for him. Put the brakes on the cranks of your mental machinery, brother quill-drivers, and bring your minds to a halt while you listen to him, and give your brains a rest. Rest and recuperate while you may listen to the toastmaster. He is more mellifluous of voice than a mocking bird, and to look upon, charming as a daisy or a big sunflower. [Applause.]

I present to you Dr. I. N. Love, of St. Louis, who will serve as toastmaster for the evening.

Dr. Love responded as follows:

Mr. President and Gentlemen of the American Medical Editors' Association, Fellow-Editors, Members of the Pan-American Medical Congress, Our Guests:—I bid you all welcome. To me has been assigned the pleasant duty of presenting to you the various speakers of the evening. The Press has been referred to as the Archimedean lever, but it should be remembered that medical editors are not "leavers" when it comes to a banquet. Any member of this company who leaves before the gong strikes—well, he is simply making a mistake.

During this year America has furnished the greatest World's Fair ever known in the history of the world, the greatest panic that we have ever known [Applause], and in addition, this Pan-American Medical Congress. That this latter is not an utter failure is due to the fact that doctors are the most self-sacrificing, when it comes to the public health, of any people on earth. The active leaders of this Congress have not had a day they could call their own for three months. They are engaged in a labor of love; money is not in it. [Applause.] We believe that the present administration

will solve the problem of money [Applause], and we believe that the medical profession of the United States, stimulated by the Pan-American Medical Congress, which is to be the unification of American medicine, will solve the question of health. I take pleasure in presenting to you the first sentiment upon the programme:

"THE FIRST PAN-AMERICAN MEDICAL CONGRESS,"

which will be responded to by the Napoleon of the medical profession of America, Dr. Wm. Pepper, of Philadelphia, the President of the Congress.

Mr. President and Members:—I am very sorry I can no longer say, "Fellow-Members of the Association of American Medical Editors." I don't feel quite so much of a stranger among you as I might, for I was for a period of my life a medical editor and look back with very great pleasure to the few years I spent in that position. I think what your President has said, Mr. Toastmaster, is very largely true. I would be very glad to bear willing testimony to the immense power of the medical press, so admirably represented this evening. What little I have been able to do in medicine I realize has been very largely due to the agency of that press, as one who has been connected with it, as one who has been obliged to use it in every way for many years, referring to it constantly, using it constantly as a medium of publication, endeavoring to use it to defend certain views which seemed desirable. I am glad to have this occasion to bear my testimony to what seems to me a very remarkable progress and elevation of our medical press during the past twenty years to a position of altogether higher quality, dignity and influence from what it has held at any previous period of our country's existence. [Applause.] But, Mr. President, while the influence of the medical press is great, and while I am glad to bear testimony to it, the medical press, just like the secular press, is unable to secure the success of a false, hollow, empty cause; it can only

accomplish the success of a true, real, vital issue. The Pan-American Medical Congress is one of the latter. [Applause.] Its success is truly very largely due to the influence of the medical press. It was a bold conception of Dr. Reed—I know no one who formulated it before him—and, although I will seek some more formal way, I cannot pass the mention of his name without adding this, that to him next to the press is due whatever success this Congress may attain. [Applause.] But more than to the press or to Dr. Reed, and those are the only other factors who have had anything to do with its success, is the merit of the cause [Applause], is the vital truth of the thought which is embedded in this organization, that in the fullness of time we have reached a point where the immense questions involved and the great facilities of intercourse, and the closer acquaintance and increased brotherly feeling and affection have reached a point where it has become the general feeling that a conference of this extent and dignity should be held, where our interests should be discussed with a fullness otherwise impossible and with a force which will insure the highest order of respect, attention, recognition, and, I trust, legislative action to embody the recommendations which may issue from this convention.

Brother Members of the Pan-American Medical Congress (for all here are such, while some of you have the honor of being members of the Association which entertains us to-night), this Congress is, as it seems to me, the embodiment of the thought which has been taking form gradually in the mind of this great hemisphere for many years. It has come happily to shape. It rests with us to make this meeting a success, and it rests with us to make it such a success that this Congress, though the first, will not be the last [Applause], that this Congress will be the first of a series, that this thought shall prove to have the force and vitality to justify a future. And, at such intervals and at such places as the wisdom of the International Executive Committee may

decide, there should be successive Congresses of this kind, where, with closer and closer union, and a recognition of the highest course, we shall prosecute that splendid work of the scientific unification of this hemisphere, devoted to the promotion of the highest interests of the race, to the advancement of our fellow-beings, to the stamping out of pestilence and the promotion of education, medical and scientific. To all these great questions to-day we are pledged. Now, gentlemen of the medical press, brother members of the Congress, do not let us lose sight of the practical point which is at issue in this matter. Are we taking such wise measures and steps as shall secure the continuance of this? Is anything more needed? Of two administrations of the United States, I can speak. The movement has had the warm interest of President Harrison and President Cleveland and of two Cabinets of the United States, and not a single government of this great Pan-American union addressed has failed to respond to the invitation sent by our national representative. Gentlemen of high distinction are here with us to-night from every point of this great continent. Never was there a meeting of medical men who had a more common interest to serve than we have. Do not let us separate without pledging ourselves to carry forward this work with increasing success until these great problems, which are referred to us, with national and more than national importance, are solved, and solved they can be by the united efforts of the Pan-American Medical profession.

I yield to those who must follow me. You must take not what I say, but what I feel and interpret it. Let us be true to ourselves and advance in this co-operation for the great purposes which are before our new profession. [Applause].

TOASTMASTER: *Gentlemen:*—In the medical profession, within the knowledge of every man familiar with it, particularly of the last fifty years, and even beyond, when

the oldest of us had not even a memory, there never was a time that the members of the medical profession were not a unit; but when they came together, political party never was discussed. [Applause.] The closest friends any of us have on earth are in the medical profession, and not one out of fifty of those friends knows, nor cares, what the politics of the others are. The medical profession has always been loyal to the union of science and humanity, and it is to-day true and loyal to the present President of the United States. [Applause.] Gentlemen, there is a combination which commands the admiration of medical men. That is not the combination of money; oh, no. It is the combination of brains and backbone. [Applause.] Gentlemen, it is the grandest combination of B's on earth, backbone and brains [Laughter], and we have here in Washington he who stands for it, and sits for it, and *is* for it, and we take great pleasure in calling upon a sterling representative of the administration, who comes from the West. The West, a word that means broadness, that means sympathy, that means warmth, that means cheerfulness, and that means brotherhood. Let us pledge a long, healthful and happy life to

"The President of the United States."

The Hon. J. Sterling Morton, Secretary of Agriculture of the U. S., will respond:

Mr. President and Gentlemen:—For many years I admired the judicial genius of Judge Gresham, and in later times I have come more strongly to admire his wonderful diplomacy. I never appreciated it fully until to-day, when I was called upon by Dr. Adams and Dr.

Love, and informed that the Secretary of State had selected me as a vicarious offering. [Laughter.]

It seemed appropriate that these gentlemen should have been selected to choose the victim for this occasion, among the laymen, for if I remember correctly Love and the Adams family, in the Garden of Eden, furnished us the first victims. [Laughter.]

The President of the United States elected, he ceases to be a partisan and becomes, under his oath of office and the responsibility which it imposes, a patriot, and it gives me great pleasure on this occasion to tell you that he has come from the hands of your profession as strong and robust physically as he is courageously strong. [Hear.] For one just from the prairies to be called upon to address an audience of professional gentlemen, makes me think of the phrase of the sporting men as to race horses, when they say of some horse, with perhaps some local fame, who has been entered in a free-for-all, that he is in very hot company; so I feel, being right next to Dr. Pepper, the President of the Pan-American Medical Congress. [Applause.] A profession like this, which with punctilious completeness has welcomed all mankind into the earth [Laughter] and with tender sympathy sees us all out again, is a very embarrassing audience. But no profession understands so well the weaknesses and foibles of human nature, and therefore I feel all the more certain that my shortcomings will be forgiven. In all the great field that is open to this profession there is one that appeals particularly to the agriculturist. The law of heredity is perfectly understood as applied to the lower orders of the animal creation, and it is to be hoped that your profession, as it advances, and it does advance from year to year with great celerity and certainty, will evolve text-books upon the law of heredity. I remember very well, as a boy, that books upon anatomy and physiology were considered as being unfit for the youth to look into at all, but I have lived to see them taught in the common schools

of the country. I remember very well when a talk in polite society touched upon the law of heredity, it was tabooed, but to-day it has become a matter of conversation among the best of the people, and I look forward to that time, not thirty years hence, when the medical profession shall have published text-books upon heredity, which shall be studied in the higher schools and educational institutions of this country. When that day shall have arrived, when the profession shall have evolved that series of text-books, there will begin a real reformation of the human race all through. [Applause.] The President of the United States is in a manner the medical director of the body politic. He is called upon in times of great financial depression to make prescriptions, and just recently, as chief medicine man of the Nation, he has prescribed a change of treatment in the finances of this country. [Applause.] He has recommended a repeal of that law which compelled the purchase every month of four million five hundred thousand ounces of silver, upon which warehouse receipts were to be issued to circulate as money. He has recommended a change of medicine, and I think that we already see signs of returning health in the financial and commercial body of the American people because one-half of the legislative branch of the Government has adopted the prescription and administered it. [Applause.] When the prescription shall have been carried out by the other medical party in council, I shall look for a restoration of the commercial and financial health of this great Republic [Applause], and again we shall have the throb of health and the pulsations of renewed industry everywhere. [Applause.]

TOASTMASTER: *Gentlemen:*—This voice from the administration gives us good cheer; it echoes the present condition; it evidences that which we have all believed, that the disturbance existing during the past few months was due to a needless fear. The next sentiment is,

"THE MEDICAL PROFESSION OF AMERICA,"

and will be responded to by Dr. James F. Hibberd, President-elect of the American Medical Association, who comes from Richmond, Ind.

Mr. Toastmaster and Gentlemen:—It is a law of human nature that people shall tend to aggregation, and it is well. In the interchange of sentiments and the friction that arises very frequently in comparing ideas, looking at the results of the past and hoping for the benefits of the future, there comes a glistening of the surfaces which come in collision, and it is a brighter and better result than is attained by those who retire to caves and remain in solitude, perhaps through religious faith, for they do not save but one soul, whereas the doctors, coming together in this way, do save a great many bodies. This sentiment is a part of our make-up. It is not anything we cultivate especially, but comes to us intuitively, and has existed I suppose since Adam and Eve held consultation concerning the propriety of eating apples. [Laughter.] Forty-seven years ago, a gentleman in the interior of the State of New York, recognizing this aptitude of human nature and realizing in his great mind the value of carrying this sentiment into execution, pondered on the subject until he started to devise, what was then not known to the American people, a plan by which the medical profession could come together for mutual improvement, for the comparison of ideas and the generation of new ones. He so impressed his fellow laborers in the medical domain that in 1846 they came together in Philadelphia and organized and laid down the plans of work. The American Medical Association was born into active existence, and it has continued to grow from that time until this. It was organized by a brain that was level, full of activity, and fruitful, and that same brain has continued to be active and watchful over the organization which was then established. That brain is still in existence and is still

active. Well, this American Association grew. It prospered, and after a while it was found there was too much business before it to be accomplished through the general session of the body. The delegates were too numerous, which necessitated a division, and the number of divisions has increased until that great institution now has eleven children. It is still growing, and is spreading the shadows of beneficence all over the land. It has these children in the United States properly christened, named and sheltered under its wings and they are doing an excellent work; and the work that they do, while originally authorized and growing out of the general association, is to-day adding luster and usefulness to the parent. It will continue to grow. You see here before you to-night not only the members of the eleven children that have been legitimately born in the United States, but we have the representatives of a number of nations, running beyond the limits of North America into the whole of the Western hemisphere, including everything down to the Straits of Magellan. This has been the outgrowth of the American Medical Association, and in my judgment it will continue to grow from day to day, if it is engineered by the proper influence, by those who are able to conduct its affairs as they should be conducted, looking after all those children as just so many helpmeets to carry it along. The American Medical Association loves all these various organizations as any parent loves its children, and it will cherish them and support them, and it will expect them to come to the grand-parent every year, which will be a benefit, not only to it, but to the various divisions. [Applause.] There is no feeling of opposition; no feeling, I take it, of difference between this parent and her children. They get together in smaller bodies, because in the very nature of things there will be a greater division to every line of investigation for the prevention of disease, or its cure when unfortunately it does occur. Be as bright and brilliant

as you can; pile up your knowledge and bring it to the annual offering, to the meeting of the parent, and we will absorb it like a sponge absorbs water. We have just gotten a fair start in the race of good that can be accomplished by such an association, and here we see the representatives composing the Pan-American Medical Congress, which is bound to be only the foundation-stone of a great edifice, which will continue to grow from year to year, and which will be as proud a thing as grows in the Western Hemisphere. [Applause.] But finally, it is, gentlemen, the very useful, industrious and persevering, society, known as the "Association of American Medical Editors," that has called us all in here, covered us over with viands and fluids; that has presented to us the science and the art of medicine in this part of America and has drawn our attention to the science and art of medicine in other parts of America. We shall be one happy family, and this Association of American Medical Editors will not preach our funeral, but will glorify our success. [Applause.]

TOASTMASTER: *Gentlemen:*—The next sentiment is one that will be met with hearty response from everyone that has ever been "A stranger and a long way from home." It is,

"OUR FOREIGN GUESTS."

E. Liciaga, M. D., President of The Mexican Supreme Board of Health, will respond:

Gentlemen:—Having received an invitation to speak as a member of the delegation from Mexico, I have found it a difficult matter to comply, since I am not an orator and have not the gift from Heaven which has been given to some men to communicate their thoughts in beautiful form to those who listen, and to say to those who are seeking for the truth that we, in common with them,

have sought the truth and found it in this noble profession of ours. Yet I am not an orator, and this fact obliges me to speak in plain words the wishes and thoughts I have for the benefit of yourselves and for us in common. Since we have been called to form a part of this wonderful Congress, the first of its kind which the world has ever seen, which unites the medical profession of two continents, I salute you in the name of my Republic, and express to the distinguished gentlemen who have preceded me and who shall follow me in speaking in this meeting, the thanks which I feel and which the other gentlemen from the Southern Republics feel. This great association of the medical press, which has invited me to this banquet, has nothing to regret and has everything to be proud of.

Gentlemen, in the olden time a philosopher said if he had a fulcrum and the lever to rest upon it, he could move the world. In this later date we have found the fulcrum of Archimedes in the press, and the point of rest is this Association, which shall not move the world which we inhabit, for that would involve a change which would break the planetary harmony, but the world of intelligence, to bring men into the paths of civilization, to place before them an ideal of social good feeling and to carry them on towards perfection. Let us always exercise these faculties and this strength of ours to extend far and wide the influence of this press, for nothing can be greater and nothing can be more beautiful or stronger in the world than that which it represents. This ideal may be found in the press and in the Association to which we all belong.

The words which it speaks, the influence it exercises, has gilded the difficulties through which we are passing in life, and penetrates every intelligence with power and with thoughts, and this renders warm and strong, as the mid-day sun renders warm and strong the humid earth, and as heat and moisture cause to germinate, grow and fructify every grain that serves for man's

nourishment, so the heat and strength of this Association will cause to germinate in our hearts, intelligence, ideas, truth and fraternity. What a noble mission, then, indeed, is the press! [Applause.] But this is not the only seed we sow. We sow far and wide the seeds which will grow and form an Association yet to come. To the gentlemen which I see before me is due the thanks from us, the delegates from foreign lands, and to you is due our personal thanks for the courtesy which you have extended to us. May this new Association of ours grow and spread, until from the North and South shall come the delegates to join hands in fraternity and strength, in excellence and truth, for the building up of our noble profession. [Applause.]

Gentlemen, this is one of the happiest moments of my life. I come to you from the neighboring Republic of Mexico. We represent here the thoughts of that great Republic, and to those thoughts and through those thoughts we bid this Association God-speed. Gentlemen, we thank you. [Applause.]

The brilliant speech of Dr. Liciaga was ably interpreted to the company by Dr. Wm. F. Hutchinson, of Providence, R. I.

TOASTMASTER: *Gentlemen:*—There is now a sentiment which appears on the programme and which is one of the most important, and which appeals to the American heart and the heart of the world; a sentiment which stands for the progress of America, and no such progress ever was known in the history of the world on the part of any other country. The secular press is truly the Archimedean lever. You will all admit it represents the necessities, the tastes of America. It has something for every heart, for every palate in America. [Applause.] That it is varied in its expressions is an evidence of its force, its strength, its ability to meet the emergency.

The secular press of the United States, of which every loyal citizen in America is proud, for, in spite of the fact that the sporting world and the wicked world and its doings are reported, there is something to feed the mind of every good man in all the world. [Applause.] You can take what you please and you can leave what you please. We have with us a true representative of the press of the United States, one who represented that press some years ago out in the cheery West—out in Iowa. His name became national and he was seduced from his first love and became a member of the Cabinet of the United States—Postmaster-General—under a President who was not only great, honest, liberal and successful, but, best of all, he was a gentleman, viz., Chester A. Arthur. This representative of the American Press has returned to the arms of his *inamorata*—he is back at his *Post*.

Raise your glasses to

"The Press of the United States."

The toast will be responded to by the Hon. Frank Hatton, Editor of the Washington *Post*.

Mr. Toastmaster:—I am glad to be here and I want to thank you, sir, for the kind and complimentary words you have said about the secular press of the United States. It comes as a healing balm to the excoriations we get from narrow people who know little about the press. During my long newspaper career I have never before had the opportunity of meeting together so many who were editors. I have often thought that the secular press did not do the doctors justice for what they do for us. Certainly, there is no part of the newspaper more carefully scanned than the part which contains the death notices. How much you have to do with supplying the

press with those, of course, you will never confess. It is not possible for a country, which can man its medical press so magnificently as this country, to support a secular press entirely manned by vicious men, and the medical journalism of this country has no superior, if any equal, in any other country in the world. It is always easy to recognize the really able and ethical doctor. He always tells you it is unprofessional to advertise his business, but if he performs any wonderful surgical operation, we have little difficulty in getting the facts concerning it, as well as the name of the physician who performed it, for publication. [Applause.] But you are a good lot of fellows, and I am really glad to see you. You, Mr. Toastmaster, made a much better response to the toast than I could make, and I scarce know what to add to the much-blistered toast to which I have been called upon to respond. As a Washingtonian I am certainly glad to meet you, and I hope the results of your conferences will be beneficial to the profession of which you are all worthy representatives. [Applause.]

TOASTMASTER: *Gentlemen:*—We must pay attention next to the medical press. The editor of the *Therapeutic Gazette*, of Philadelphia, will respond to it. He has been writing ever since he was in swaddling clothes, and he has written well. Young as he is, his name is a household word in the medical profession of America and across the sea. We all know that he loves the medical press and the latter reciprocates the sentiment and is proud of him.

"LONG LIFE AND PROSPERITY TO THE MEDICAL PRESS."

Hobart Amory Hare, M. D., of Philadelphia, Pa., will please respond.

Mr. Toastmaster and Gentlemen:—The kind words in which our toastmaster referred to the medical press of the

United States and your speaker, recall forcibly to my mind the story once told by Curtis, who, being introduced to a large body of men and being pressed in a way he did not deserve, told them that they might have heard of a certain Southern prince, who, as he walked along, saw in a picture an image of himself, an image far more beautiful than he. Upon expressing his surprise to the artist, the reply came, "It is not to represent you, but it represents you as you ought to be." To follow the last speaker with the poor toast "Medical Press," compared with the general press, is hard indeed. Further than this, Dr. Hughes has practically responded to the toast "The Medical Press," by telling you everything the medical press does or ought to do.

I cannot avoid at the present time calling attention to a thing which we should all recognize, viz., the great improvement which is taking place in what I hope will be a great medical journal. I refer to the representative of the American Medical Association. The changes, which have occurred under the able management of Dr. Hamilton, I am sure have caused pride to come into the heart of everyone. Not only does the medical press delight to honor its colleagues, but, while active in the medical profession, we are also active in the political world. Medical editors, indeed, delight to honor such men as Dr. Garcelon, once the governor of one of the great States of the Union. The practice of medicine does not limit man to the wants of the practitioner, but elevates him to even greater deeds.

TOASTMASTER: The next sentiment which appears upon the programme should be presented to you, because it represents a very important and dignified part of the United States Government. As a medical editor and a member of the Pan-American Congress of the medical profession, I want to give credit to the administration of the United States for having chosen as a Surgeon-

General of the United States Army a man who stands for science (that is so), and in selecting him without reference to his rank. In this matter President Cleveland again gave evidence of his wisdom. The gentleman to whom I refer has done work of which the medical profession should be proud (is proud). *Is proud*, and will be proud during all the coming years. However, I have received word from Dr. Sternberg, who was to respond to the next toast, that a meeting of the Section of which he is president has been called for this evening, which will detain him until a late hour.

I call then upon Dr. William A. Hammond, Ex-Surgeon-General of the United States [Applause], and also a member of the medical press of the United States, founder of the *New York Medical Journal*, the old *American Weekly Journal* of the United States, to respond to the sentiment,

"The Medical Department of the United States Army."

Mr. President and Gentlemen :—When told that I would be called upon to make a speech, "I was taken entirely back," to use a Western expression, and I am somewhat familiar with Western expressions, having spent the best part of my life, after I was twenty-one years of age, west of the Mississippi. However, I know a great deal about the worthy gentleman who now presides at the head of the medical department of the army. Dr. Sternberg, as you all know, is a scientist of the first order. The whole medical profession welcomes him. He was not my first choice, and he knows that as well as I do, but after he was appointed I, as well as all others, gave him my cordial support, and I have no doubt will continue to support him, for there is no doubt he will ably fulfill the duties of the high position to which he has been called.

Now Mr. President and gentlemen, some twenty-four hours before I came here I had a visit from a gentleman from Missouri. He came from St. Louis. After I had questioned him in regard to his symptoms and so on, I had occasion to ask him if he was acquainted with Dr. Love. He told me he was and knew him very well. I said, "He is a very prominent physician in St. Louis, is he not?" "Oh yes, but he got me into some trouble once." "How was that?" "Well, I was very sick once under his care and I was troubled with hallucinations and illusions, and I dreamed I was dead, that I died and, as a good Christian, went up to heaven and knocked at the door. St. Peter was there and he asked me my name. I replied, 'Thompson.' 'Where do you come from?' 'St. Louis.' 'First name?' 'John.' He took out his book and went over Thompson and St. Louis, and he said, 'Mr. Thompson, there is some mistake, you are not entitled to come here.' 'Well,' I said, 'this is very hard, for I went to the other place first.' He asked, 'Who was your doctor?' 'Dr. Love was my doctor.' He turned over the Loves, and said, 'Why, Mr. Thompson it is all right; you are here fourteen years before your time.'" [Laughter and Applause.] I think that was a fair return of Dr. Love. Now, as my five minutes are about expired, I will take my seat. [Applause.]

TOASTMASTER: There is with us to-night a brilliant star, one who is very eminent in a profession which I believe does more to brighten life, and thus to lengthen life, which does more to make the liver secrete energetically and thus lengthen life, which does more to aid digestion and thus aid nutrition and thus lengthen life, than any other profession. I refer to that Guild which worships at the shrine of William Shakespeare. Mr. Thomas Seabrooke, who has just arrived from the Isle of Champagne, will have the floor to respond, after we drink the health of himself and his merry playfellows.

Mr. Chairman and Gentlemen of the Medical Profession: —Of course I appreciate most sincerely Dr. Love's complimentary remarks regarding myself, and the only excuse I can offer for it is the fact he does not know me at all. When I received the invitation to attend this Banquet, I did not know it would be an occasion for me to represent the stage, to express my sincere appreciation and warm love for men who sacrifice their lives solely for mankind. Not very long ago I met with a very serious accident. Under the advice of what seemed to be a very prominent physician I received the encouragement that my leg would have to be operated upon, and that from being a star I might look to the time when I would be sitting at the back door. I made up my mind that something heroic had to be done. When the proposition was made to open my knee, I thought it over and said "No, I would not submit, I would wait." I waited. After getting better and working for probably two or three months the same old knee went back on me again. The physician's diagnosis seemed to be correct. I went to another physician and stated my case. He was a young man and he said, "I think I had better let my father examine you." He opened a door and on a reclining-chair was an old physician, virtually dying, but in spite of his condition he sat up in his chair, irrespective of the effect it would have upon him, and examined my knee. He said, "Seabrooke, don't have that knee opened." Now, it would have been very easy for that doctor to have said that he was too busy or too sick and I had better come around to-morrow. But, he did not do that. For this spirit of self-sacrifice you do not get half the credit due you. You attend a case, and when you send the bill in by the first of July everybody forgets all about you.

That leads me to another thought, a story concerning the drug store. Upon a vessel a darky was stationed at the lookout. About 2 o'clock in the morning he was heard to say, "Captain, there is something in

front." "Well, you big chump, what's the matter with you?" "Well, there is a red light and a green light." "Well, what is it?" "Well, by golly, I don't know, unless it is a drug store." [Applause.] Mr. Seabrooke then favored the company by singing "The Prodigal Son."

TOASTMASTER: There is a representative of the press, the press general, the press secular, here, who is also a star. He is a representative of the F. F. V.'s, the Fastflying Families of Virginia. Major Alfred F. Stofer will favor us next with a song.

Mr. Stofer then rendered, "The Watermelon Hanging on the Vine," and "Roll Out and Heave Off the Cotton."

TOASTMASTER: It was once said that the profession was dividing up so there were surgeons for every part of the body except the umbilicus, but some one refuted this, saying that there are naval surgeons. Since Surgeon-General J. R. Tryon could not be present, the same as Dr. Sternberg, in the absence of representatives of the Army and Navy, we call on Senator Jno. B. Henderson, of Missouri, to speak on

"GENERAL PRINCIPLES."

Mr. President and Gentlemen:—To respond to a toast connected with the Navy is an impossibility on my part. Certainly, gentlemen, this is a most interesting occasion, and it gives me very great pleasure to see this assembly of medical men. It was a pleasure of mine a short time since to serve as one of our delegates to a Pan-American Congress of a different character. We undertook then to cement the States of the Western continent together. We of the United States call this America, but we should not forget that the States south of us are

as much America as we are. We feel a desire to propagate the principles of our institutions, whether we are on the right track or not. We are all Republicans; that is, we are all Democrats, I mean, and individually in favor of free government. We had very great success. Take the Republic of Mexico, and I don't wish to offend my friends when I say twenty-five or thirty years ago we stood in perfect awe of Mexico. They had a revolution every six months or year. What is the result now? That country is gridironed with railroads. If Brazil, if Chili, if the Argentine Republic will only give lands to American companies, they will build a railroad from the City of Mexico to the Straits of Magellan. [Applause.] All you have to do with the average American is to offer him the land and some bonds, and he will undertake to construct a road to the moon. In less than twenty years from to-day, my friends, we shall be able to get upon a railroad car in the City of Washington, and in a few days thereafter be gazing upon the old and everlasting meadows of the Argentine Republic. [Applause.] Nothing is impossible in this country. Why, it is not impossible, but altogether possible, to make infinitely better physicians than you all are. [Applause and Laughter.] Wait until we get these gentlemen from the Southern republics. There is no people upon earth like the Americans; they believe that when God Almighty finished us He had no other work to accomplish. We believe that Brazil and the Argentine Republic and Peru and countries of that sort can furnish nothing to compare with us, either as lawyers or doctors, or actors or anything else under the sun. I will not be surprised if, when you get through with your friends here, you will find physicians in your midst as able as yourselves. In the Pan-American Congress I had nine colleagues, and we thought there was nobody in that Congress except ourselves. We thought these gentlemen came from some place worse that even the wild and wooly West. I had been in conference only about a month when I found to my utter surprise

that I could not start any subject which they did not understand, and eventually they understood it as well, if not better than myself. [Applause.] The present President of Mexico is the best they have ever had. The person my friend spoke of is not only great physically and great mentally, but he is a great man morally. [Applause.] He has built up the great Republic of Mexico and made it worthy of association with ourselves. [Applause.] Mark you, in the future if danger and difficulty shall come to this country, we can turn our eyes to the southern republics with the utmost confidence. I know them. I read the list of delegates from Bolivia, from the Columbian States, from Peru, from the Argentine Republic, from Chili and from that great Republic which in territory is greater than our own, Brazil, and the heart of those States is with us to-day and will ever be. They suffered as we did; their early history is written in blood upon the mountains of South America, just as our history was written in blood at Valley Forge. Bolivia carried the patriots of South America through toils and troubles and difficulties, and brought to them, as Washington brought to us, liberty and freedom of conscience and of the press. [Applause.] It is here, and it is here to stay forever; it is in Mexico to stay and stay forever, it is in Brazil, in Chili, in Patagonia, it is there to stay forever. Gentlemen, go on with your continental congress of physicians. Would that the lawyers would do the same thing. The lawyers could administer upon the pocket and the physicians upon the estates. Why should we not have some of the ablest lawyers in the United States reside in these southern republics? Do not imagine there is no freedom, no conscience, no religion in the civil law. Gentlemen, international law is founded upon the civil law, and there is no code of law which extends greater freedom of thought than the civil law. Indeed, it was the foundation of Roman law long before our common law was established in England. They have the greatest lawyers, scientists

and physicians. I shall advocate a continental congress of lawyers and of editors. Gentlemen, what am I to talk about now? You called upon me at one o'clock, when I ought to have been sound asleep. Gentlemen, the toastmaster will call upon you until the sun is high in the sky. There is not a gentleman in the sound of my voice who will not be forced to talk, sing a song or tell a lie, or escape from the room in the dark. I talked because I knew I was compelled to do it. I do not know what more to say to encourage these gentlemen in their good work. Cholera is likely to come, yellow fever must be expected. Are you prepared for the work? Are you ready? Gentlemen, for God's sake, save these laymen, for valuable men are exceedingly scarce in this country. [Applause.]

TOASTMASTER: The next sentiment is

"OUR NATIONAL HEALTH,"

an important subject, especially just at this time. In the absence of Surgeon-General Wyman, it will be presented by a man who outgrew the Marine Hospital service of the United States; a man who in consequence of the qualities and abilities he developed was called to the chair of Surgery of Rush Medical College, at Chicago, one of the greatest medical colleges in America, in one of the greatest cities in America. I refer to Dr. Jno. B. Hamilton, the editor of the *American Medical Association Journal*. He is competent to speak on the Marine Hospital service and also in reference to the *Journal*. Dr. Hamilton will now respond to the double toast:

Mr. Toastmaster and Gentlemen:—I am surprised to be called upon to respond to this toast. The Marine Hospital, sir, is proud of the fact that its members are members of the medical profession. They never forget that they are, first of all, physicians, and American

physicians at that. The history of epidemicology in this country would not be complete if it omitted reference to the various doings of the Marine Hospital service. They never flinch from a duty, whether it calls them to the front of an epidemic or to a social field. I suppose, sir, having been trained in that field, I have a proper right to respond. The officers go into these epidemics without the hope of a reward, further than that which falls to any man in the performance of duty.

Six commissioned officers have died in the last ten years, one in the last month.

In reference to the *Journal of the American Medical Association*, I have to say, that *Journal* was founded for the purpose of representing, as well as it might, the wishes, the sentiments, the scientific aspirations of the members of that Association, and also of such members of the profession as chose from time to time to unite with that Association. Finally, the sentiment was created to unite still further these great American republics into one harmonious union. That originated in the man who was chosen Secretary-General of the Pan-American Medical Congress. We did not choose a Reed shaken by the wind, but a Reed as solid as the adamantine oak. The American Medical Association was foremost in cementing the wounds caused by the late civil war. The first meeting held south of the Mason-Dixon line was held under the auspices of the American Medical Association, and I am sure there never was a time when they remembered whether a man came from the North, South, East or West, or from St. Louis, but they remembered whether he was a medical man. And so this *Journal* has extended its best wishes and all the support it could give to this great movement when it welcomed our colleagues from South America, Central America, the Isles of the Sea and Mexico. The first duty of the American medical editors is being performed to-night in extending to our colleagues our most sincere thanks for their presence, and our cordial welcome. [Applause.]

TOASTMASTER: There is, in the regular order, a sentiment and a name which appeals to every man's heart, who has a heart. It makes no difference if he is an American or a Pan-American. No matter where he comes from, a man who has red blood corpuscles in his veins with the proper proportion of hæmoglobin, a man whose glands secrete the milk of human kindness rather than bile. There is not one man on earth so constructed but will appreciate the name that will be presented to you next. [Applause.] I refer to Washington, and it is proper a member of the Adams family should respond to that toast. I have definite information that the one who is to speak to you is a direct descendant of the Adams family, Samuel S. Adams. Gentlemen, he will speak to you, and he will do better than that, during the week to come he will act for you; he will work for you as he has been doing for many weeks, he will feed you, water you and be good to you. [Laughter.] The Chairman of the Committee of Arrangements of the Pan-American Medical Congress, Dr. Samuel S. Adams, will respond to the sentiment,

"THE CITY OF WASHINGTON."

Mr. President and Gentlemen:—I feel somewhat like the tail of a kite: This is the tail of the evening, and I have been placed at the tail of the programme. However, it affords me much pleasure to be able to respond. After working for several months on the Congress, the heat being excessive, and having an intelligent wife, I was persuaded, I was driven to betake myself to the Ozark mountains for a week's rest. I arrived in St. Louis and proceeded to the house of Dr. Love, where I found a number of medical gentlemen awaiting my arrival. I begged them to let me go

to bed, for I was nearly dead from riding in the sleeper. A day later they took me bodily to the Ozarks. Then the first thing presented was an excursion to a river about ten miles away. We went to this river, and after we got there we had a thrilling experience worthy of being repeated. It was dark, and when we reached the river and had gotten about four feet from the bank, the driver said he thought he had lost his way but was willing to try. I assured him he would not try with me, for I could't swim in the dark. Finally we reached the camp, and there met a number of citizens of St. Louis, who were possessed of some musical abilities. The darkies had caught some chickens, and from that time until seven o'clock next morning we were kept alive and awake by our own post-prandial story-telling and musical abilities, and the same toastmaster, who is now serving us. This city is usually a quiet place except during the sessions of Congress. We are able to present to the Pan-American Congress most healthful water and most salubrious weather. We have, with the assistance of the citizens, provided as well as we could. We present to you its hospitality, and we trust, that when this Pan-American Medical Congress adjourns, you can look with pleasure to your visit to the Nation's Capital. As citizens of this District we are as nothing. We are taxed by your representatives, we are told that we must contribute so much for the maintenance of the city; and, thanks be to heaven, those representatives have made Washington what it is to-day, for I can remember when she was a mud hole. We extend to you the welcome of the citizens, nutrition, stimulation and good cheer.

TOASTMASTER: We now have a sentiment which will appeal to everyone present. We have a medical editor here who comes from across the sea. He stands for a medical journal which is first in the world, the strongest, the lustiest, the ablest, the best conducted, the best

edited generally of any medical journal in the world. And, gentlemen, as medical editors we all know what that means, we know what it means to run a medical journal for love and not for money, to work for nothing and board ourselves. When we have with us as a visitor a representative of the greatest medical journal on earth, that stands for something—that stands for much, since the journal which he represents is the official organ of the medical profession of England, and it stands for more than that, because that association embraces the medical profession of all Great Britain. I take great pleasure in presenting to you Mr. Ernest Hart, editor of the *British Medical Journal.*

Mr. President and Gentlemen:—When my friend Dr. Love wrote to me, asking me to make a set address, I answered as the well-known lady did, when she was asked by her lover if he could kiss her: She said, "Certainly not." He said, "That was rather abrupt. It would not have hurt my feelings so much if you should say you do not care for me to." She said, "That is not true!" I said, "No," but that was not because I did not wish to speak, for my heart will always be with you.

As to the sentiment entrusted to me, the progress of science and the part which the medical profession plays and the medical press plays in carrying on that progress, I can only say that to my mind the elevating of science in this country at the present time lies with the medical profession. [Applause.] I have been studying the great capitals of America and have come to the conclusion that even in the most distant centers, science is being cultivated with a liberality and an energy and a munificence which is unparalleled. I think Chicago has in the last ten years, taking that as an example which I have most earnestly studied, shown a determination to

educate its citizens scientifically and show a munificence to carry out the project which is unparalleled. I think, however, it is not done in the best spirit, but one which you can improve. I was talking to one of the principal men, and he said, "Yes, knowledge is power." Now, what he meant was that the science which he was cultivating was the science which means power in the sense of commercial power—power in the sense of railroads, in new electric machines; it meant the means of acquiring house and land. He was thinking that he had arisen to be a wealthy man and would like to give others the chance of acquiring power. That is not your view of science. He did not know that science, that knowledge, is happiness, that knowledge is good for knowledge's sake, that the abstract knowledge of science is that which enlightens a nation. In my mind the worst thing you can say of science is, that "knowledge is power." The abstract knowledge which will give in mental growth for its beneficence things not merely maturing the body but maturing the mind, is the sense in which we understand science. In response to this sentiment, I would say it is for the medical editors to teach that knowledge is often justice. The press is degrading itself because it does not understand, that "knowledge is power," is the worst of sentiments. The secular press, the daily press or lay press, spreads knowledge, but what kind of knowledge? Mostly evil knowledge. It delights in lending itself for whatever can gain the public favor. While I am part of the medical press, there is nothing which degrades America and the whole American Republic so much as the corruption of the press, its favoritism of quackery and its abuse of knowledge.

Therefore, in response to this toast, let us not think of science as the knowledge which is power, but the knowledge which is truth, morality, elevation of the intelligence of the Nation, and not the increase in wealth or material. [Applause.]

TOASTMASTER: The sentiments of

"BROTHERLY LOVE, DIPLOMACY AND RECIPROCITY,"

represented in Dr. C. A. L. Reed, Secretary-General of the Pan-American Congress, will be next presented.

Mr. President and Gentlemen:—I have been accused, upon various occasions, of being responsible for imposing upon the suffering people of this republic and the neighboring republics an additional organization. It is claimed by some that the people are weighted down by organizations. I have endeavored to make clear my purity of purpose, my honesty of motive in endeavoring to bring the representatives of a liberal, aggressive and progressive profession together. Senator Henderson has spoken to us this evening with words of eloquence—with words of wisdom. He was a participant in that great conference that was instigated in this country by the immortal Blaine. [Applause.] That conference was the initial step in the amalgamation of the nations, which had a common purpose and a common destiny upon a common ground. It occurred to me at one time that the medical profession, ample as it was, had a part to play in this great plan of bringing together to a universal nationality the peoples of the Western hemisphere. With that motive in my mind the resolution was presented to the American Medical Association, on whose part there was at once secured a hearty co-operation. The suggestion was at once ratified by the royal profession of the United States. The Congress of our country, with remarkable unanimity, passed a joint resolution sustaining that idea. We placed at the head of this movement Dr. Pepper, who has this evening addressed you in words of eloquence I cannot command. This has resulted in a union of the medical profession of this continent. The medical profession of the neighboring countries responded, and the result is that there is not now a local medical society from Behring Sea to the Straits of Magellan, not confederated in this movement. From the learned Liciaga

we have learned that this was responded to most cordially by the friends south of the Rio Grande. We have here representatives from the Canadas, every one of the West Indies, Mexico, Guatemala, Columbia, Venezuela and other republics of the great South, which shows that this sentiment has been responded to, not only by the medical press, but the governments of those countries to whom invitations were extended by this country to send delegates to this meeting. Now, what is the result? What will be the ultimate result? A closer union. Why? Because the medical profession is closer identified to the public affairs than any other profession. Two years ago, when I examined the affairs of the great South, I found seven officials were practitioners of medicine. They to-day mould the destinies of these countries more than any of the respective bodies politic. If we find, as we feel we do, that our interests are mutual and reciprocal, we can discover at a glance that those interests shall be largely advanced by engagement with the distinguished profession so identified with the development of governmental policy in those countries. That this movement has not been inaugurated without effect is proven by the fact that those countries are represented by that distinguished element. I regret, that, unlike the International, we cannot hold our Sessions over a more protracted period. Some seven months were consumed in discussing before that conference, and at the conclusion of that time the official elements, delegated with treaty-making power, were taken through our country and visited our various centers of population. We propose following that programme as much as possible, and we propose supplementing those deliberations and actions as far as may lie in our power. One of the most important questions then was an endeavor to establish quarantine regulations between the various countries of the Western hemisphere. That ended in failure for the reason that the scientific facts underlying the adjustment of those questions were undetermined. It is the purpose of this conference to

establish those questions upon a clear and distinct basis. To-day the absence of uniform regulation amounts to an embargo upon commerce between the southern part of the United States and the adjacent parts of the southern republics. [Yes.] When that question can be definitely settled upon a distinct basis, this Congress can continue untrammeled the year round, and that must come more from the deliberations of this body than any other. [Applause.] If I may pass further, beyond this question I would ask you to consider the important question of the manufacture and sale of pharmaceutical products. To-day the United States of America, which stands foremost among the nations of the world in pharmacy, is absolutely without a market in the Southern republics. For what reason? Because the Southern republics are unfamiliar with our dosage, as well as with the composition of our various pharmaceutical products. Along this line I may well speak of the elaboration, under the skillful management of Prof. Remington [Hear, hear], of a pharmacopœia which will be a universal pharmacopœia and will make a change amounting to millons of dollars [Hear, hear, applause.] Gentlemen, this Congress means business It is not pure sentiment. It means opening the great educational institutions of the United States to the patronage of the Southern republics. We have in the United States to-day, no doubt, the best and most progressive institutions of learning in the world, and these are not adequately patronized by our Southern neighbors. It is our purpose to have them visit those institutions and to have them draw their own conclusions. One of the most important things which can result from this Congress will be the fraternization of the medical profession, and the formation of a union more intimate than has before existed. When that comes about, our institutions will become familiar with our brethren in the South, and when an ambitious medical graduate of the United States shall seek further knowledge of the diseases which surround him, he will attend the laboratories

of Havana, Cuba, and the various centers of learning in our neighboring American countries rather than of Paris and Vienna. [Applause.]

We are entirely satisfied with the prospects of this Congress. Numerous revolutions among the people to the south of us and the extraordinary financial depression in the United States will result in a reduction of the attendance upon this Congress, but the proceedings will constitute a record of scientific work second to none. I do not know what to say further. We believe that our purpose is clear, distinct and honorable; we believe that it is beneficial to all people concerned, and with this belief we shall work energetically to the interests of the Pan-American Medical Congress. [Applause.]

TOASTMASTER: Clink your glasses to the continued growth and development of American Pharmacy, already the most advanced and elegant of any on earth. Professor Remington, of the Philadelphia College of Pharmacy will speak to the sentiment,

"PAN-AMERICAN MATERIA MEDICA, THERAPEUTICS AND PHARMACY."

Mr. Toastmaster and Gentlemen:—Regarding the relation of pharmacy to this Congress, I must say a word. I was very much interested in the remarks of your distinguished President, when he spoke of the unification, the scientific unification of this hemisphere. We, of the United States, owe to South America some of the greatest remedies known to therapeutics, some of the greatest remedies that have ever been given to relieve the ills of nature, as cinchona, quinine, cocaine, jaborandi and many others. Within the last year I have been engaged in work upon a new pharmacopœia. Pharmacy has taken the lead in this great step in one direction—it is introducing into the pharmacopœia the metric system. That is one of the links, gentlemen, which is going to help this movement. Some years ago Great Britain found, in order to

introduce her goods into South America, and get South America to use her products, instead of sending out her goods measured in the weights of her own country, she had to adopt the metric system. She now sends to South America the goods in meters, and what is the result? She gets the business of South America, and South America is buying these goods because they don't have to be remeasured. I am at this Congress on the invitation of your Secretary-General, who has been able to see, with a good deal of foresight, that if we are to use the products of South America more, and if they are to use our products more, we must get on a better basis with that country. This has been partly accomplished, and you, gentlemen, within a few weeks will see that a long stride has been taken in this direction by the new pharmacopœia, which I hope will be in every one of your offices by the end of the year. It forms an important link in cementing the two countries. [Applause.] What is wanted from this Congress is practical results. Although interest and rhetoric are desirable, the true question is, how are you going to make this practical? I know there are practical lines and wisdom in the gentlemen of this Congress. Another thing. I do not like the name Pan-American. Why can we not adopt the name American and be all American? Why can we not have such relations with the South as to bind us together? As your Secretary-General has suggested, this may lead to the establishment of a Pan-American Pharmacopœia. This does not necessarily mean that such a Pharmacopœia will supplant the United States Pharmacopœia or the Pharmacopœias of the other countries. Can we not say that this is one strong link to bind us together? Gentlemen, on behalf of the pharmaceutical profession, I say to you that pharmacy stands ready and willing as the handmaiden of medicine to aid you and help you in this way. [Applause.]

TOASTMASTER: I know we all would be delighted to

hear from the "Watch-dog of the Treasury," and I now take great pleasure in presenting Dr. A. M. Owen, of Evansville, Ind., Treasurer of the Pan-American Medical Congress.

Mr. Toastmaster and Gentlemen:—We are told, that "Where two or three are gathered together, there will I be also," and I am right with you. You spoke of the "Watch-dog of the Treasury," and I can assure you that I esteem it an honor to be the watch-dog of the treasury of such an organization as the Pan-American Medical Congress, and am glad indeed to be called upon to speak before so many distinguished gentlemen.

However, I take pleasure in seeing that President Hughes has this evening taken the liberty to attempt to impress upon the minds of the gentlemen of this Congress that he is a genuine chutmuck, and I wish to say to you that it has become evident to me that he is a true, genuine chutmuck, though there are very few chutmucks in the world now. I wondered at first why I was called upon to speak before this great Editors' Association, but I find there are two or three reasons why I should be called upon. One is, because I am a genuine chutmuck. I was invited here because at one time I was an editor of an American journal. I was also connected with three medical colleges, but I felt it was for the good of the country that I should leave them all, and secure the abolishment of the latter.

Gentlemen, it is now too late to make a speech, and I will not weary you, but I want to thank you for calling upon me, and congratulate the First Pan-American Medical Congress upon this generous, enthusiastic, auspicious opening.

TOASTMASTER: It is well along toward morning and the fact that we have remained together as long as we have is indicative of our enjoyment. As Gen. Henderson remarked, it was the intention of the toastmaster to call

upon every victim present for a speech because they are all noted speech-makers. There is one, however, that I am confident every one of us will be delighted to hear from. He is a man who has been practicing medicine and surgery in his native State for more than sixty years. He is loved by every man, woman and child in his State. As an evidence of his personal popularity and qualities of head and heart, he was a few years ago elected Governor of his State by the Democracy, he having been a consistent Democrat all his life. During all these years, that party had never been successful and were successful on the occasion referred to only in that they had as a standard-bearer so grand and heroic a figure. I take pleasure in presenting to you Gov. Alonzo Garcelon, of Lewiston, Me., who though over eighty years old, is a young man, and will be young as long as he lives, for he long since solved the problem of perpetual youth.

Mr. President and Gentlemen:—My heart and interests have been in the American Medical Association from my earliest years. When I commenced the study of medicine I did so with the determination to avail myself of all the possibilities of acquiring an education which would enable me to practice medicine successfully. There is one thing we must all have to be successful as physicians, and that is common sense. I say to you, fellow-practitioners of medicine, that it is the duty of every man who takes a student in his office to be sure that he has a student who is endowed with common sense. Not all the education in the world will make a man successful unless he has some common sense, and if he is disposed to be a surgeon he must also have some mechanical ingenuity.

In regard to the Pan-American Medical Congress, permit me to say that it has, from the beginning, met

with my warmest sympathy. I have been a pretty constant reader from my earliest life, and have come to the conclusion that we are, as a nation, wonderfully ignorant of our neighbors. One of the things we should learn first is that there are some people who know something besides what we Yankees know. There is much to be said in regard to our sister republics besides what has been said concerning them. For some 300 years the center of civilized government was there. He who reads history will be surprised to learn of the civilization that existed there 200 years ago. The people there have been unfortunate, and disturbed by revolutions, but the fact still remains that we may find there great culture and many schools of learning, and I am sure in this Pan-American Congress we shall find very much to admire, and our regard for those people will be greatly increased. Now, gentlemen, I will not detain you. There is much to be said and much I would like to touch upon, but as we are in the wee hours of the morning, I think it is better for us to adjourn. I see before me the distinguished president of the University of Pennsylvania (Dr. Pepper), and other gentlemen connected with education, but I must say as a looker on, for I am in no way connected with any institution, that the great want of the American medical profession is the elevation of American education throughout the country. I only want to say one word in addition. There is a bill before Congress for education in medicine that ought to receive the encouragement of all, as one of the best means of educating and bringing the institutions of the country up to a point where we can have some uniformity, and reduce or destroy the amount of ignorance and quackery. [Great applause.]

TOASTMASTER: Dr. H. L. E. Johnson, Chairman of the Committee on Transportation, to whom we are all under great obligations for his efficient work, and particularly for his charming personality, will now present himself

and give us the opportunity for giving him at least a round of applause.

Mr. President and Gentlemen:—I attended the Banquet of the Editors' Association in 1886. They then confined their remarks to the Southern States, but they have now put a girdle, as it were, around the entire Western hemisphere. They have called together the members of the entire Western hemisphere to meet in a Medical Congress, to form a body, as has been said, for professional advancenemt. This Congress will surely be a success.

We should pay a very warm tribute to the *Washington Post.* The gentlemen on the staff of that paper went before Congress and said they were in favor of it and would support it. Members of the United Press said they were in favor of it and would support Congress in anything they would enter into.

I want to go on record as saying that to Senator Gorman, of Maryland, and the *Washington Post* we are greatly indebted for the success of the first Pan-American Medical Congress.

In closing, gentlemen of the American Medical Editors' Association, let me congratulate you upon the efficient work that you have done individually and collectively in supporting the Pan-American Medical Congress, and in so pleasantly setting the ball in motion as you have done this evening.

TOASTMASTER: Your Chairman now decides this session as closed. We thank you, one and all, for coming with us and breaking bread with us, and staying with us so loyally. Before leaving the room, we will all join, led by Major Alfred J. Stofer, in singing the Mississippi Valley Medical refrain,

"Go away, old man, and leave me alone,
For I am a stranger and a long way from home."

SELECTIONS.

NEUROTHERAPY.

Cerebrine in the Treatment of Locomotor Ataxia.—Dr. Græme M. Hammond presented a case of locomotor ataxia which he had been treating with hypodermic injections of cerebrine. Six years ago the patient, a man aged forty, had begun to suffer with double vision. This, after several months of treatment, had disappeared, and for a time he had been quite well. Then the typical symptoms of locomotor ataxia came on. There was complete loss of the knee-jerks; he had sharp pains in his legs; the ataxic gait was well marked; there was inability to stand with the eyes closed, even when the legs were some distance apart; he had difficulty in evacuating his bladder and bowels; his sexual power was lost, and he had a sense of constriction around the waist. There were no eye symptoms. The man denied syphilis. Treatment was begun about ten weeks ago, and consisted of a daily hypodermic injection of cerebrine, five minims combined with five minims of water.

Dr. Hammond said he presented the case with some diffidence, on account of the method of treatment employed; no one had had less faith in these animal extracts than himself. The improvement in this case however, had been very marked. The man's sexual functions had been perfectly restored; he had complete control over his bladder and bowels; the sharp pains had disappeared; his general health had improved; he was able to run up and down stairs, and could stand fairly steady with his eyes closed. The knee-jerks, however, had not returned. No other treatment had been employed. The improvement had been gradual and steady, and had begun about a week after the first injection. The cerebrine employed was that prepared by Dr. Wm. A. Hammond.

Dr. Joseph Collins had employed subcutaneous injections of cerebrine, as prepared by Dr. Paul Gibier, in a few cases of locomotor ataxia; the improvement in those cases had been about equal to that in Dr. Hammond's

patient. It was not uncommon, he said, to see the virile powers return in these patients. This had occurred after applying blisters to the back. A case had also been reported in which the shooting pains had disappeared after injections of phosphate of sodium.—*Proceedings New York Neurological Society.*

Treatment of Obesity by an Exclusively Nitrogenous Diet and Copious Libations of Warm Water.—Drs. Savill and Haid recommend, in the *Lancet*, the following treatment for pronounced obesity:

The individual is restricted to a purely nitrogenous diet, consisting of one pound of cooked fish and one pound of lean meat per day, and a pint of hot water must be drunk at intervals during each two hours. Aside from this no other article of diet whatever must be taken. The meat and fish may be eaten at regular intervals, as suits the case. Five or six pints of water should be taken during the day. The hypothesis on which this treatment rests is that the patient supplies the needful hydro-carbons, which are withheld from his diet, through absorption from his own body. The ingestion of the large quantities of hot water is likewise supposed to exert a beneficial influence in some unexplained manner. This should be continued even after the patient has returned to ordinary diet, from which, however, potatoes, and especially beer, are excluded. It is not unlikely that the large quantities of water tend to overcome the renal disturbances which often manifest themselves when an exclusive nitrogenous diet is adopted with the ingestion of the ordinary amount of water only.—*Pittsburgh Medical Review.*

Trional as a Hypnotic.—Dr. Hammerschlag ("Inaug. Dissert.," Berlin, March, 1893,) refers to the similarity of trional to sulphonal, from which it differs by containing a larger proportion of the more active ethyl, and recapitulates the published experiences of this narcotic.

The substance is odorless, possessing a slightly bitter taste, not readily soluble in cold water, and is best administered in about eight ounces of a warm liquid (water, soup, milk and tea), shortly after an evening meal and about half an hour before bedtime. The average dose for a healthy individual is about fifteen grains, prescribed as a powder and administered as above.

Previous experience shows trional to be more efficacious

than sulfonal, and this observation was borne out by the author, who more particularly compared its action with that of morphine and chloral. About twenty ounces, in doses from fifteen to forty-five grains, were administered to sixty patients suffering from melancholia, mania, hysterical and epileptic conditions, hypochondria, paranoia, alcoholism, morphinism and general paralysis of the insane. In the cases of alcoholism, contrary to the experience of other observers, sleep was produced in the majority of patients, this also applying to cases of morphio-cocaine poisoning. As regards the other affections, trional invariably produced results as satisfactory, or more so, than chloral and morphine.

Healthy individuals suffering from nervous insomnia are not included in the above observations. With such the author invariably found fifteen grains sufficient to produce sound sleep. No unpleasant symptoms were caused, excepting some slight digestive disturbances in some instances, and the drug was never refused by any of the patients. Even after administration during long periods, no albumen appeared in the urine.—*British Medical Journal*, July 22, 1893.

Duboisine for Insomnia.—Prof. Mendel (*Therapeutische Monatshefte*, No. 3, 1893) finds duboisine very efficacious in insomnia of the insane, even those subject to considerable motor restlessness, delirium and hallucinations.

Muscular relaxation is obtained in five minutes, and sleep lasting from two to six hours follows in twenty minutes.

The author commences treatment with ½ mg. (gr. 0.0075) and gradually increases to 1 mg. (gr. 0.015).

Duboisine is ineffective in melancholia, paranoia, and simple insomnia.—*The Medical Press.*

Borate of Soda in Paralysis Agitans.—Borate of soda, which has been found useful by various authorities in epilepsy, has been tried with remarkable success by Dr. Sacaze, *chef de clinique* in Professor Grasset's wards in Montpellier, in a case of paralysis agitans where the actual cautery, electricity, suspension, iodides and various other forms of treatment had proved fruitless. The drug was given at first in 4-grain powders three times a day, and after a few days the dose was gradually increased to about double that quantity. An improvement was manifest by

the end of the first week, and after that the patient's condition continued to improve still further. After a time he was able to walk, to speak distinctly, to feed himself and to write, none of which things he could accomplish before the borate of soda was commenced. No disagreeable effects were produced by the drug.—*London Lancet.*

CLINICAL NEUROLOGY.

THE AUDITORY CENTERS IN RELATION TO LANGUAGE.—Giampietro, of Naples (*Ann. des Mal. de l'Oreille*, etc., March, 1893), enumerates these centers as follows: 1. Sensory bulbar center, the destruction of which leads to total peripheral deafness, and it occurs before the age of two or three years, to irreparable aphasia. 2. Mnemonicovolitional center in the optic thalamus, on which depends the faculty of attention necessary for rational speech or writing; a vasomotor disturbance in this is the cause of transitory amnesia. 3. Ideophonic center in the first temporal convolution (left?). When this is diseased the patient, though hearing words, is unable to affix to them or remember the idea they normally convey—"*surdité verbale*" (Charcot), "ideophonic amnesia" (Giampietro). 4. Ideomotor center in the third left frontal convolution, for the remembrance of the movements necessary for the pronunciation of words, its disease causing typical motor aphasia. 5. Ideographic center at the extremity of the second left frontal convolution, disease of which results in agraphia.—*British Medical Journal.*

ARSENICAL NEURITIS.—Osler (*Montreal Med. Jour.*) relates a case to show that long continuance of full therapeutic doses of arsenic may lead to the development of peripheral neuritis. The patient was a Pole, suffering from Hodgkin's disease, affecting the cervical, axillary, and inguinal glands. During a period of seventy-five days he took ℥iv, ℥j. *m*xviii of the liquor potassæ arsenitis, equivalent to sixteen and one-half grains of arsenious acid. The dose, for the greater part of the time, with some intermissions owing to diarrhea, was *m*xv three times a day. Increased pigmentation of the skin was noticed at an early period of the treatment, and, after about seven weeks, it was noticed that the

muscles of the upper and lower limbs were tender to the touch, and that he walked stiffly. The knee-jerks which were then present, had disappeared in another fortnight, and he was scarcely able to walk at all. The muscular power of the arms was diminished. The excitability of the muscles of the legs to both currents was diminished, and A.C.C. was equal to, if not greater than K.C.C. Osler observes that idiosyncrasy must play a part in the production of arsenical neuritis, which is very rarely produced by therapeutic doses. He had only once before met with a case which raised the suspicion of neuritis, though he had been in the habit of treating pernicious anæmia, Hodgkin's disease, and chorea minor with arsenic, pushing the drug until its physiological effects were produced—itching of the skin, slight œdema, vomiting, or diarrhea.

The Vertigo of Arterio-Sclerosis.—Dr. Church calls attention to arterial disease as a neglected, but nevertheless very frequent, cause of vertigo. When a man past the prime of life, without any previous serious illness, suddenly becomes faint, has a swimming in the head, a feeling of giddiness, of distinct gyration, of darkness and impending death—one or several of these sensations—he usually at once seeks advice, in grave apprehension—sometimes well founded—of cerebral apoplexy, and usually gets a cholagogue cathartic, or is told that his stomach is wrong, and sometimes is told so rightly (*The British Medical Journal*). But cases are constantly presenting themselves in which such vertiginous attacks are happening at shortening intervals. The patient gives up his tobacco, his spirits, if he is a drinker, cuts down his meat, takes to some of the many waters recommended, has Turkish baths, and gains only moderate relief or none at all. If carefully examined, he will be found to have a well-defined tortuous frontal artery, a distinct arcus senilis, a clanging second sound of the heart, a pulse of increased tension, and scanty urine, with perhaps a trace of albumin. He finds that exertion of a moderate amount precipitates the attack, that he cannot endure a temperature at all above the usual, and often a change of position from recumbency to the upright is the occasion of giddiness. The attack is often accompanied by a fullness and throbbing in the head, a feeling of heat in the scalp, a blur before the eyes, and

transient pallor of the face. In the treatment of this affection iodide of potassium is the sheet-anchor, and is given in doses varying from thirty to ninety grains a day for months, sometimes with the result of affecting a complete cure.—*Medical Record.*

Syphilis and Dementia Paralytica.—It is now fully admitted by the ablest pathologists that of all the causes of tabes dorsalis, one, namely, syphilis, stands at the head of the list. According to Gowers, as many as eighty tabetics in the hundred owe their malady to syphilis.

Within recent years much attention has been directed to another degenerative disease of the nervous system. For a long time the pathology of dementia paralytica was a *terra incognita.* Thanks, however, to the labors of Folsom, Mendel, Hirt, Strümpell, Tuczik and others, the pathology of this fatal malady has been carefully studied. With the advance in its pathology comes an advance in our knowledge of its etiology.

According to Rieger, the man who has had syphilis is sixteen times as liable to dementia paralytica as the man who has not been syphilized. Hirt states that out of two hundred and fifty-seven paralytics, one hundred and seventy-one had syphilis. Other authors could be quoted to show the same relationship of syphilis to dementia paralytica. This all goes to show the close relationship between this form of dementia and tabes.

When one looks at the pathological anatomy of dementia paralytica, the same analogy is still further borne out. Syphilis is specially liable to give rise to chronic inflammatory changes in and around the arteries. This is just what many of the best pathologists find to be the case in dementia. This is true to such an extent that so eminent a pathologist as Osler calls dementia paralytica a chronic meningo-encephalitis.

These views would bear out the treatment recommended by Sachs, of New York. He insists on rest, and then orders the iodides freely. He increases the doses until the patient is taking from 150 grains to 300 grains daily. This may be aided by mercurial inunctions. Small doses of iodides are quite useless.—*Dominion Medical Monthly.*

Diagnosis of Hysterical Epilepsy by the Urine.—Dr. Gilles de la Tourette, writing in a Belgian journal,

urges surgeons before operating on epileptic patients to make a careful examination of the urine. He states that by that means a diagnosis can be made between partial hysterical epilepsy and partial epilepsy due to a neoplasm; for, according to researches made by him in conjunction with Dr. Cathelineau in Professor Charcot's clinic, when the epilepsy is due to a tumor there is a marked increase during the fit in the urea and the phosphates, while in hysterical epilepsy these bodies are excreted in smaller quantities than usual during the attack.—*Medical Record.*

Brain Bruises.—Sir William Savage, in a recent number of the *Lancet*, claims that bruises of the brain are not uncommon after injuries to the head. In addition to the existence of concussion of the brain-matter, there may be gross lesions. These injuries vary very much in extent from a mere pinkish coloration to rupture of the vessels and the formation of blood-clots. As it is quite impossible to say that the brain-matter has not been lacerated, in the case of concussion, the prognosis should always be given guardedly. The author also thinks that if there is marked drowsiness, headache, loss of consciousness, marked loss of mental power, and difficulty in rousing the patient's attention, there is good reason to suspect brain bruises or lacerations.

Diabetes.—Dr. George Harley, in the *British Medical Journal* for May 27th, divides this disease into the following groups:

1. Hepatic diabetes—including the gouty variety.
2. Cerebral diabetes—including all cases arising from nerve derangements.
3. Pancreatic diabetes—the most deadly form.
4. Hereditary diabetes—where several occur in the same family group.
5. Food diabetes—from the ingestion of unwholesome substances.

The presence of sugar in the urine is due to one of two causes. Either there is an excessive formation of sugar, or there is a faulty and diminished saccharine consumption. The hepatic form might be taken as a type of the former; while the pancreatic might be taken as a type of the latter. In all cases of excessive sugar formation, a restricted dietary is necessary. A hearty man of 180 pounds uses up daily about two pounds of sugar. Now the same person

as a diabetic may produce two or three pounds additional sugar, which is not required for the nutrition of the body, and runs off by the kidneys. It is in this class that dieting is so valuable.

The thirst may be appeased by bland liquids, as tea, coffee, lemon squash, salutaris, soda, koumiss, beef tea, milk, meat extracts. Alcoholic beverages ought to be avoided, as they very rapidly increase the output of sugar. Of the mineral waters, both the saline purgative and the alkaline non-purgative waters are very useful. Phosphoric acid is specially valuable in quenching the thirst of these patients. In additon to the usual treatment for these cases, the following prescription is very highly commended:

℞ Croton chloral . . . . . gr. ½
Opii. . . . . gr. i.
Ext. aloes barb. . . . . gr. ⅙
Ext. gentianæ . . . . . gr. iss.

This is given in pill form three times a day. Under the use of the above, the urine in one patient fell from one and a half gallons to three and a half pints in twenty-three days, while the specific gravity decreased from 1036 to 1030.

An Epileptic Canary.—M. Féré tells us (*Société de Biologie*, June 8) that epilepsy is not unfrequently met with among birds. Hitherto, however, only two such examples have been recorded in detail. M. Féré has recently had under observation a canary thus affected. The attack commenced suddenly with a kind of aura, the bird extending its wings. This movement was followed immediately by a turning of the head to one side, and then the animal fell. Generalized tonic spasms were then succeeded by clonic spasms, these stages being followed by a period of stupidity, often accompanied by impulsive acts.—*Medical Record.*

Fractures Among the Insane.—Christian (*La France Médicale*, April 21, 1893) denies the statement that has been made that general paralysis of the insane is accompanied by a rarefaction of the osseous tissue, leading to the ready production of fracture and retarding healing of bones, when broken. If this were the case, he says, fractures would be of frequent occurrence in general paralysis, whereas they are, in his experience, exceedingly rare. He has constantly seventy or eighty paralytics in

his hospital service, but is very seldom called upon to treat a case of fracture among them. In disproof of the second statement, that fractures are slow to heal in these subjects, he cites a case occurring in his service, in which perfect union of a broken arm took place within a month, the patient being a general paralytic, forty years of age.—*Medical Press.*

ACROMEGALIA.—Weiss (*Wiener klinische Wochenschrift*, No. 8, 1893) showed the Medical Society of Vienna a man, aged 44 years, who never had been seriously ill until five years before, when he observed that his hands and feet, as well as the projecting parts of his face (nose, lips, etc.), and especially the lower jaw and the genitals, became unshapely and large.

He had no persistence of the thymus gland nor any other abnormality to which the etiology of the disease might be attributed.

DYSMENORRHEA RELIEVED BY PAPINE.—N. F. Graham, M. D., Washington, D. C., reports a case of dysmenorrhea, for the relief of which he had previously used all the preparations of opium, when he tried papine, which relieved the pain as promptly as morphine, without leaving any bad after-effects, as was the case when he had previously prescribed other forms of opium.

NEUROPATHOLOGY.

THE PATHOLOGY OF NERVOUS DISEASE.—I would sum up the points which I have tried to bring out and emphasize in the preceding remarks, somewhat as follows:

(1.) The term inflammation, as now understood, has to be applied more carefully and with restriction to nervous diseases: Many forms or cases, for example, of meningitis and myelitis are in reality toxæmias or processes secondary to mechanical injury. There cannot be an inflammation without a specific cause, and we should associate this fact with our conception and our diagnosis of the inflammatory processes.

(2.) In the organic neuroses of degenerative type there is a toxine of extrinsic or intrinsic origin, which is negatively chemotactic. The body cells and proteids cannot defend the special parenchyma, against it. The

degenerations, including muscular atrophies and primary scleroses are of toxic origin. There is a poison at work which it should be the effort of neurological science to find out how to antagonize and combat.

(3) In the chronic neuroses of functional origin, so-called, such as paralysis agitans, chorea, epilepsy, and Basedow's disease, there is a toxic factor which is of fundamental importance. This may be due to defective gland action as in Basedow's disease and in myxœdema or to humeral poisons of other orgin. Many neuroses are really glandular or nutritive or infectious diseases.

(4) There is another element of equal importance in the etiology of the neuroses, and that is an inborn or an acquired lack of resistance to injurious agencies, whether engendered within or introduced from without. This diminished power of resistance on the part of nerve-centers is produced in some cases by strong emotions and shocks; and while under this depressing influence the nerve-centers become susceptible to the action of the poisons which then continue and keep up the disease. In some such way as this we may explain the origin of paralysis agitans, certain forms of neurasthenia, and exophthalmic goitre, perhaps, also, even of the organic neuroses like locomotor ataxia. These views lead to the practical conclusion, that in treating many of the chronic neuroses there are two kinds of measures to be employed: first, those which increase strength and resisting powers of the organism; second, those which are of antitoxic or specific character. There are, in all probability, specific cures for many of the diseases which we now regard as hopeless; remedies which will stop the progress of locomotor ataxia and progressive muscular atrophy, and which will neutralize the poisons that keep up exophthalmic goitre, paralysis agitans, epilepsy and other neuroses.

(5.) The toxic origin of nervous disease has been established in the case of myxœdema and made probable in that of exophthalmic goitre, paralysis agitans and chorea; and the importance, at least of a toxic element has been shown for epilepsy.

(6.) Finally, by the term toxine or poison is meant a very wide range of injurious substances, including the products of defective metabolism, defective gland action, microbic growth, and the extrinsic vegetable and mineral poisons.—Dr. Chas. L. Dana, *in Boston Med. and Surg. Jour.*

Alcoholic Neuritis.—In *Deutsches Archiv. f. Klin. Med. Bd.* 50, Dr. O. Reunert has an article on this subject based on the observation of twenty-five cases, about three per cent. of the total of alcoholic cases treated. An autopsy was made in five cases. Four groups of cases were represented: (1) Typical polyneuritis, thirteen cases; (2) Localized muscle paresis and atrophy, four cases; (3) Slighter forms without pronounced paralysis and atrophy with disturbances of sensibility, sensation of pressure on nerves and muscles, or anomalies affecting the reflexes, six cases; (4) Cases with marked participation of the ocular muscles.

The complaints in the commencement of the disease were rheumatic pains, heaviness and stiffness of the limbs, generally in the lower first, but twice affecting the upper extremities, increasing weakness, pains in the calves of the legs, muscæ before the eyes, and over diplopia. Pains were only to be considered as pathognomonic of the disease when associated with a feeling of pressure on the nerve trunks, and of the muscles. These symptoms assumed greater importance when anomalies of the reflexes, especially the patellar, are also present. Disturbances of sensibility in the form of hyperalgesia which frequently accompanied chronic alcoholism not characteristic of neuritis. About thirty-three per cent. were delirious, or became so shortly after admission. During the course of the disease or at its commencement, psychical disturbances were very frequent (feebleness of intellect, restlessness, sleeplessness, dementia, hallucinations, and imbecility). These only continued till death in two cases. Rapid improvement of excessive psychical disturbance with the character of dementia were in favor of the disease being alcoholic in its nature.

One of the most frequent complications was tuberculosis. Alcohol and tuberculosis were apparently common causes of nerve degeneration. The prognosis of alcoholic neuritis, not in itself unfavorable, was rendered almost fatal by tuberculosis. Amongst the nervous symptoms ataxia was to be named first.

The electrical behavior was very varied, sometimes quite normal, and at other times atrophy of muscles accompanied distinct diminution of electrical reaction. Sometimes this was absent altogether, as was that of degeneration. As regarded disturbance of sensibility, the mildest forms were almost exclusively of a neuralgic

character. In combined alcoholic and tubercular disease sharp pains were generally present. Hyperalgesia of the skin was very rare. The tendon reflexes were generally weak or absent altogether. In reconvalescence the patellar reflex returned slowly. Exaggeration of it was observed by Strümpell and Möbius. The cerebral nerves might be diseased. A relatively large number of neuritics suffered from disturbances of vision. As vasomotor disturbances, the author observed a tendency to sweating and œdema. Temporary cyanosis came on in two cases. Bowel or bladder troubles were generally absent or fugitive. As regarded the anatomical condition, the author confirms the opinion of Strümpell as to the simultaneous commencement of both central and peripheral changes. As regards this, Dr. Westphal gives a report of an autopsy of a case in the "Charité Annalen."

The patient, a man, æt. 28, who drank to excess, showed atrophic paralysis of the extremities, disturbances of sensation, œdema, marked deposits of fat, occasional fever and dementia. These symptoms gradually improved. Five years after the commencement of the disease the patient died of phlegmon of the perinæum. The autopsy showed slight poliomyelitis anterior chronica, with participation of Clark's columns, advanced parenchymatous degenerative neuritis resembling that described by Erb of progressive muscular dystrophia.

The anterior roots of the spinal cord were intact.—*Med. Press.*

EDITORIAL.

[*All Unsigned Editorials are written by the Editor.*]

First Pan-American Medical Congress, Washington, D. C., September 5th, 6th, 7th and 8th, 1893.—The Section on Nervous and Mental Diseases was well attended, the papers were numerous, from distinguished sources, and the discussions were interesting. The hours were all filled.

The distinguished Doctor Manuel Carmona y Valle, City of Mexico, presented a valuable clinical contribution to the study of the cerebral spastic paralysis of adults, and his younger and talented colleague, the amiable and handsome Rogue Macouzet, M. D., Physician of the Divino Salvador Hospital for the Insane of Mexico, gave an interesting and instructive study of the causes, symptoms and treatment of partial epilepsy worthy of any *savant* in neurology.

The study of the "Etiological Influence of Hereditary Syphilis on Sclerose en Plaques in Children," by Dr. Louis Moncorvo, of Rio de Janeiro, Brazil, corresponding member of the Academy of Medicine of Paris, was read by title, the distinguished author not being able to be present. It represents new phases of this interesting subject, and will appear in full, as will likewise the preceding papers, in the "Transactions" and in the ALIENIST AND NEUROLOGIST, of St. Louis.

Dr. Ferd. C. Valentine, of New York, late Surgeon of the Peruvian Army, read a paper on "Hypnotism.—Does it Menace the Public Weal?" taking the ground that hypnotism should not be considered an excuse for crime.

An interesting study of "Criminal Anthropology and Social Reform" and the proposals of Lombroso, in Italy; Mr. Havelock, in England; Kern and Lutz, in Germany, was presented by Dr. Abundeo Aceves, of Guadalajara, State of Jalisco, Mexico.

Dr. Salvador Garimdiego, of Guadalajara, Mexico, read a valuable contribution on "Inebriety, Its Causes, Its Effects and the Means Necessary to Curtailing It."

The Section was opened with a Formal Address by the Executive President, Dr. C. H. Hughes, of St. Louis,

which dealt largely with American neurological and psychiatrical advance, reviewing the progress made during the century and epitomizing the work of the past decade. The Address of Welcome (in Spanish) was delivered by Dr. Wm. A. Hammond, of Washington. Other papers were:

"Mental and Organic Coördination," by Dr. Wm. Fuller, of Grand Rapids, Mich.

"The Modern and Humane Treatment of the Morphine Disease," by Dr. J. B. Mattison, of Brooklyn.

Dr. Chas. K. Mills contributed a paper on "The Gangliated Nervous System and Some of Its Diseases," which elicited extended discussion and met with general approbation.

"Animal Extract," by Dr. Wm. A. Hammond, of Washington, was an elucidation, in epitome, of this interesting subject.

"The Disease of Inebriety and Its Treatment," by Dr. T. D. Crothers, Hartford, Conn.

"Erotopathia, Morbid Erotism," by Dr. C. H. Hughes, St. Louis.

"The Treatment of Nervous Diseases in Sanitariums," by Dr. Jas. K. King, Watkins, N. Y.

"The treatment of Cerebral Hemorrhage," by Dr. D. R. Brower, of Chicago.

"Typical Paretic and Syphilitic Dementia and Tabes Diagnostically Distinguishable," by Dr. E. C. Spitzka, New York City.

"*La Renguera*," by Dr. Daniel Guiterrez y Arango, Cali, Cauca, Columbia, read by title only, author being absent.

"On the Prognosis of Railway Spine," by Dr. F. X. Dercum, Philadelphia.

Paper, by Dr. Jennie McCowen, Davenport, Iowa. Read by title only, as author was unexpectedly summoned away from the meeting.

"A New Type of Neurasthenia," Dr. Chas. L. Dana, New York City. Read by title, author being absent.

The papers of Spitzka, Brown, Hughes, King, Dercum, Hammond, Mattison and Crothers, all presented features that provoked discussion. The time of the session was all taken up with the many excellent papers and the discussions thereon. The attendance was full, and general satisfaction was expressed at the success of this important section of the First Pan-American Medical Congress.

The American Medical Editors.—The American Medical Editors' Association met in Washington, in the large banquet-hall of the Arlington hotel on Monday, September 4. The President, Dr. C. H. Hughes, of the ALIENIST AND NEUROLOGIST, read a short and pithy address of welcome to the invited guests, and the versatile Vice-president of the American Medical Association, Dr. I. N. Love, of the *Medical Mirror*, was toastmaster of the evening. To the toast of "The President of the United States," the Hon. J. Sterling Morton, Secretary of Agriculture, responded in a most happy manner. "The Secular Press," was responded to by Hon. Frank Hatton, editor of the *Washington Post;* "The American Medical Association," by President J. F. Hibberd; "The Pan-American Medical Congress," by President Pepper; "The Medical Press," by Dr. Hobart A. Hare, of Philadelphia; "The Surgeon-General of the Army," by Ex-Surgeon-General Hammond, General Sternberg being absent; "The Surgeon-General of the Navy," by Ex-Senator John B. Henderson, of Missouri, who gave an interesting account of the purposes and objects of the Pan-American Congress over which he presided last year; "The Public Health," and *The Journal of the American Medical Association*, by Dr. John B. Hamilton.

The volunteer speeches brought out by the skillful touch of the toastmaster, were many and excellent. Among the most notable of the after-dinner volunteer speeches were those of Dr. Ernest Hart, of the *British Medical Journal;* Dr. Phillipot, of Jamaica; Dr. Abram Owens, of Evansville, and Dr. Garcelon.

In the intervals between the speeches, Major Stofer, the well-known Washington correspondent, rendered some pleasant musical selections, and Mr. Seabrooke, the actor, gave one of his characteristic recitations.

As the evening waned, it *dawned* upon some of the invited guests that American medical editors knew how to enjoy themselves, and take a few hours of recreation, as well as any other class of Pan-American citizens.

Altgeld, Governor.—This name means old money, but it should have meant old times, back number, old fogy. The age is ahead of this Illinois governor. He is behind the times, the people do not approve his partisan course toward the worthy medical superintendents of Kankakee. An insane hospital, with its mentally-maimed

victims of misfortune, is no legitimate part of the spoils of political victory. Political friend and foe alike demand political non-intervention with these institutions. The welfare of their inmates demand skilled medical supervision and care and no political questions asked.

Governor Altgeld, you have made the mistake of your life. It will not be forgotten that you fired your political hot shot into a hospital for the insane of your own State. The doctors of Illinois are against you. Humanity cries out against the inhuman deed. The medical and moral sentiment of the cultured and humane world is against you.

Sein Name iſt Altgeld, aber noch lange kein neues Geld fuer mediziniſche Zeitſchrifte. Mit dem Publikum iſt ſo alt' Geld ausgeſpielt.

Charcot.—"I will now go to rest. I will finish to-morrow," were the last words of the Clinician of Salpêtrière and Master in Neurology, whose recent demise the medical world laments. When will France see his like again? He enriched her neurology and some phases of her psychiatry beyond all precedent and made the French capital famous the world over as the home of the world's greatest neurologist. He enriched the literature of neurology in many of its most interesting phases beyond the contributions of any other physician. The psychic and spastic features of hysteria, the scleroses and paralyses were especially enriched by him in their varied symptomatology and in their pathology. Apoplexy, asthma, tabes, aphasia and the wonderful features of hypnotic trance were particularly illumined by him. His name is allied for all time with French neurology.

If French surgeons and teachers of general medicine had done for their departments what Charcot has done for neurology, Paris would have continued supreme as a medical center, as she was in the palmiest days of Louis Napoleon.

Charcot, if not confessedly the greatest, was at least the most famous of the world's neurologists, and as such, he takes his place among the immortals. He has gone to rest, and will finish his work to-morrow, in the abiding example of his industry and his genius upon the coming generations.

Jean Charcot's parentage was humble, but the talents and industry of his early life readily surmounted every

obstacle to his advancement, in the then monarchical and aristocratic capital. He was born in 1825. His doctorate degree was acquired twenty years later.

In 1862 he founded the "*Archives de Neurologie*," and later, "*Le Revue de Medicine*," "*Archives De Pathologique*," "*Experimentale et al' Anatomie Pathologique*," and "*Nouvelle Iconographic de la Sal pe triere*," besides, "*Leans du March et Clinique de Malades des Systeme Nerveux.*"

Soil Pollution Persisting after Twenty Centuries in Rome.—The *Engineering News* contains the following: "Dr. Lauciani, in his work on 'Ancient Rome,' says that while a system of garbage collection existed under Roman rule, the disposal of refuse was as crude as it is in many modern towns and cities. That this disposal method was regarded as a nuisance at a very early period is made evident by the fact that sanitary laws were passed 2000 years ago that were intended to at least mitigate the trouble.

"Some of these laws, graven on stone, were unearthed by Dr. Lauciani in his excavations, and the text of one of them reads: 'C. Centius, son of Caius the Prætor, by order of the Senate, has set up this line of terminal stones to mark the extent of ground that must be kept absolutely free from dirt and from carcasses and from corpses. Here also the burning of corpses is strictly forbidden.' On the bottom of this stone, in red letters, some probably near resident had written, 'Do carry the the dirt a little further; otherwise you will be fined.'

"But this bounding line, beyond which any foul matter might be cast to putrefy under a Roman sun, was only 400 feet from the city walls as erected by Servius Tullius. When Dr. Lauciani dug up the stone on June 25, 1884, and about 2000 years after the use of this area for refuse disposal, the soil was still so polluted and the stench arising from it so horrible that even his workmen, inured to such work as they were, found it absolutely unbearable, and had to be relieved at frequent intervals.

"The dumping ground near the Esquiline Cemetery, including the present cemetery itself, was the greatest of these nuisances, and so long ago as the beginning of our Christian era the Roman rulers found it necessary to cover this area with twenty-five feet of soil and to convert it into a garden.

"The long and active survival of disease germs in soil was also claimed in excavations made inside a cofferdam uncovering the bed of the Tiber, alongside the bridge leading to the Castle of St. Angelo, in Rome. Here, in successive strata, we found coins and other relics fixing the age of the deposit down to the fourth century A. D. The soil as it was slowly removed was piled upon an adjoining wharf and then taken away. When the very lowest and eldest of all the strata disturbed was so disposed of, an epidemic of typhoid fever broke out among the workmen and those living in the immediate vicinity. The result of careful examination is said to have shown that the trouble came from this lowest strata, and that the disease germs that had been lying dormant at the bottom of the Tiber for nearly 1500 years were still active for evil, and proved their vitality."

Psychological Prodigies.—The brilliant and sometimes erratic Turin psychologist, Professor Lombroso, whose fertile and prolific pen enriches the popular as well as the scientific press of Italy, has recently contributed a characteristic essay anent his eminent compatriot, the composer Verdi. He purports to deal with "Verdi as a Psychological Phenomenon," but has overshadowed his theme with so much incidental and interesting table-talk, that the latter serves as the *pièce de résistance* of the intellectual repast. We here render the production into English:

The phenomenon of a great opera like "Falstaff," produced by an octogenarian like Verdi, impresses the psychologist as extraordinarily as would the accouchment of a seventy year old mother, or the fresh paternity of a man of ninety. The creative power of the intellect stands with the sexual virility in so intimate juxtaposition and relation, that when an old man composes a successful opera, he provokes as much wonder in the psychologist as if the product were a human heir.

There is here no intimation that great men do not in general achieve a great age. On the contrary, as I have had opportunity to demonstrate in my work: "*L'uomo di genio*," men of mark more frequently attain to extreme longevity than do their companions of the common mould. The social apathy, and morbid bluntness to the appeals of every-day life, behind which intellectual

eminence is so often intrenched, or rather above which it is raised, measurably spares the nervous system from destructive wear and contributes to long life, despite the usually exaggerated development in men of genius, of all the organs of sense.

Beard has authenticated by statistics that five hundred great men of history reached an average of 64 years, and that one hundred modern men of great celebrity even surpassed this estimate by five years; whereas the normal human longevity of the present time is but 51 years.

Sophocles died at 90, Petrarch at 90, Herodotus at 75, Pericles at 70, Thucydides at 69, and Hippocrates at 103 years of age.

This superiority of longevity extends in a minor degree to whole classes of the more intelligent and cultured members of society. Ecclesiastics attain the average of 64, jurists and lawyers that of 58, and physicians 57 years of age.

Although the children of genius are not usually precocious in their physical development, yet in point of intellectual productivity they are more prone to early maturity than to reach their zenith late in life. Händel, who at 19 was manager and orchestral director of the Hamburg Opera, composed his first operatic piece at 20, and the "Messiah" five years later. Wieland, who was master of the Latin language at 7 years of age, composed an epic poem at 13, and three years later gave to the public "The Better World." Lope de Vega made verses at 12, and Calderon wrote "The Chariot of Heaven" in his 13th year. Kotzebue wrote his first theatrical production when 7 years old, and at 18 witnessed the successful presentation of his first tragedy.

Victor Hugo produced "Irtamène" at 15, and at 20 years had already published "Hans d'Islande," "Bug Jargal" and the first volume of "Odes and Ballads." Casimir Delavigne devised ballads at 14 years, and Lammenais at 16 wrote "Words of a Believer." Pope composed the "Ode on Solitude" when only 12 years old, and when 16 his "Pastorals." Byron invented poems at 12, and at 18 published "Hours of Idleness." Moore translated the "Anacreon" when 13; Dante made his first sonnet before he was 9 years old; while Tasso and Metastasio began their poetic careers respectively at 10.

Pico della Mirandola knew the Latin, Greek, Hebrew, Chaldaic and Arabic tongues when a small boy. Claude Joseph Vernet executed fine drawing when 4 years old, and had become a distinguished painter at 20. Sir Christopher Wren invented an astronomical instrument in his 13th year, and presented it to his father in a Latin speech. Beethoven had composed three sonnets before he was 13, and Weber was barely 14 years old when his first opera, "The Forest Girl," was performed. Cherubini produced a motet and mass when only 13, which were much admired; and Eichhorn and Mozart gave public concerts at 6 years of age. Meyerbeer, when a lad of 15, played the piano with astonishing skill, precision and expression.

There is an antithesis to the picture just drawn. Thiers, Pestalozzi, Wellington, Burns, Balzac, Alfieri, Fresnel, Humboldt, Sheridan, Volta and Linnæus reached the meridian of their maturity and fame comparatively late in life.

It is related that Chalmers was a queer compound of mischief and stupidity, while at school; that Adam Clarke found no sphere of mental or physical activity beyond marbles; that Walter Scott was straightway dubbed a dunce, by his teachers; that Robert Burns, although a wonderful athlete, was without a scintilla of intellectual promise; that Goldsmith was commonplace; and that John Howard, Napoleon and Wellington distinguished themselves in no respect when school-boys.

It is more than probable, however, that almost all the instances of apparent boyish stupidity that have been noted in great men, could be explained by a lack of proper encouragement and opportunity for the development of their budding powers, and more especially by an ill direction of their faculties, and a false estimate by their relatives and instructors of their special aptitudes. It is known that Rossini, Wagner and Verdi were derided and suppressed upon the first essay of their talents, and this because of an originality that did not tally with the routine of their teachers. It is hardly conceivable that a really clever man could have given during his student days no sign whatever of his future destiny.

Klaproth, the celebrated Orientalist, when at the University of Berlin, was rated for a time as a student of very ordinary capacity. A professor once petulantly remarked to him: "You seem to have learned nothing

while here." "Oh, yes," replied Klaproth, "I have learned Chinese." And this was really the fact. In a short time, and without the assistance of teachers, he had well-nigh mastered this difficult language. Newton usually forgot the errands with which he had been charged by his mother, because he was preoccupied with Kepler; and while he was the last boy in his class at school he at the same time displayed a wonderful ingenuity in the contrivance of mechanical toys. While Walter Scott labored under false estimate of being a blockhead, he was renowned among his playmates for his interesting and ready stories.

The style in which Carlyle, Dickens, George Elliot, Tennyson, and many other men and women of genius, clothed their productions written late in life, is oftentimes above criticism, but the most of such emanations had been projected and thought out of youth. It is just here that Verdi overtowers his predecessors and contemporaries as an exceptional psychological phenomenon. His "Falstaff" is permeated throughout with the brisk sparkle and buoyancy of youth, whereas most literary productions of the sort, written late in the author's lives, partake of the serious and somber tone of advanced age. Nor was Verdi's "Falstaff" designed and invented, or even dreamed of by him, in his earlier years. It is as if that anomaly of genius which prematurely aroused the young faculties of those whose instances of youthful precocity we have just adduced was in Verdi's case applied to arrest and prevent the intellectual waning of old age. We occasionaly find a physical parallel in octogenarians, whose cranial bones have not yet consolidated at the fontanelles and sutures, or who display the same efficient sexual activity as in youth. I must confess that the psychological problem presented by Verdi is a hard one to solve. It is an anomaly so great and extraordinary as to tax in vain the acumen and logic of those who have devoted a lifetime to the observation and study of the freaks of the human mind.

Perhaps the greatest merit of our illustrious master, whose melodies have reached the summit of the most extraordinary popularity, consists in the art, or the genius, which has enabled him perfectly to interpret into sweet cadence the thoughts and feelings of his time and environment, and to make them minister to the highest musical delight of the auditor, at the same time that the

effort of the latter is not taxed in the slightest to appropriate and assimilate them If Verdi be no genius, in the sense that he is the author of no new and startling creations, he certainly has the endowment of most wonderful artistic talents; talents which are understood and enjoyed by the grand totality of his contemporaries; talents that are marvelously perpetuated in his old age. Wagner, on the other hand, although a new and veritable creator, wrote much that was understood and appreciated by only a fraction of the musical world of his day.

W. W.

Amende Honorable.—For the *first time* in the fourteen years' life of this journal, so far as we know, a valuable selected article appeared in our columns unaccredited to its proper source. We refer to the valuable paper of H. Babinski, of Paris, on the "Association of Hysteria with Organic Diseases of the Nervous System, Neurosis and other Affections," so ably translated by Dr. C. S. Witherstine for the *Universal Medical Journal.* We cannot say exactly how this occurred, but we do know that the article was selected on its merits to go first among our selections immediately to follow the original articles. It inadvertently appeared as the last of the original articles.

Malt Extract.—Extract of Malt is one of the dismissed articles from the Seventh Decennial Revision of the U. S. Pharmacopœia. Why this, when it is an article of so much therapeutic value and so largely used?

Parke, Davis & Co., have called our attention to this fact, and ask why it is so when they have such an excellent malt extract to offer the profession.

Chairmen of the Respective Sections of the American Medical Association.— The following named gentlemen are chairmen of the respective sections of the American Medical Association for 1894: *Surgery and Anatomy*, Dr. J. B. Roberts, Philadelphia; *Practice of Medicine*, Dr. H. A. Hare, Philadelphia; *Obstetrics and Diseases of Women*, Dr. Joseph Eastman, Indianapolis; *Neurology and Medical Jurisprudence*, Dr. J. G. Kiernan, Chicago; *Ophthalmology*, Dr. A. R. Baker, Cleveland, O.; *Laryngology and Otology*, Dr. E. Fletcher Ingalls, Chicago;

Materia Medica and Pharmacy, Dr. Frank Woodbury, Philadelphia; *Diseases of Children*, Dr. W. S. Christopher, Chicago; *State Medicine*, Dr. George W. Stoner, U. S. Marine Hospital Service; *Dermatology and Syphilography*, Dr. A. H. Ohmann-Dumesnil, St. Louis; *Physiology and Dietetics*, Dr. I. N. Love, St. Louis; *Oral and Dental Surgery*, Dr. W. H. Fletcher, Cincinnati.

A Suggestion of Kleptomania in peculiar form appears in the remarkable discoveries made in the old stone house of Henry S. Cochran, the man who robbed the U. S. Mint at Philadelphia. There were many secret hiding places between the walls, concealed by trick panels. In the cellar of this home was found a tunnel leading from the southwest corner of the cellar to the end of the grassy lawn overlooking Woodlawn avenue, and it was intended to serve as a means of escape for the dishonest bullion guardian should he be surprised while at his crucibles melting the stolen gold.

In the sleeping-room that had been occupied by the old bullion weigher a most remarkably constructed panel, concealing a safe of novel design, was found. Chief Drummond took everything from a shelf in the closet, and all in the party examined it but saw nothing strange about the shelf. Forcing it back, behind it and deeply imbedded in the wall was a tiny fire-proof safe. It was of the latest pattern and had evidently only recently been placed in its secure position. From this safe the Chief had on his first visit taken $3,700 worth of bullion. On the top floor of the cottage Cochran had his smelting-room. There was found a stove on which he had heated his crucibles, and in a case against the wall were a big pair of scales, which he had bought at the Mint during the superintendency of the late Daniel M. Fox. Along the opposite side of the wall was placed a work bench completely equipped with a turning-lathe and a full set of fine tools. There were shelves filled with books and in the middle of the floor were heaped 200 iron match-safes of peculiar design he had invented and from which he expected to make a fortune. In the cellar another mold, a forge and a bag of charcoal, which Cochran had used in smelting the stolen bullion, were found.

The inspecting party were about to return upstairs when a screen in the southwest corner of the cellar was noticed. Chief Drummond sent for Sam Shaw and had

him take out the screws which held the screen. When it was removed the detectives saw the opening of a tunnel. It was three feet wide and four and one-eighth feet high, the earth being supported by a crib of heavy timber. Shaw, when questioned, said that the passageway ran beneath the lawn to the sidewalk on Woodlawn avenue, but he could not tell exactly where the Woodlawn avenue opening was located. He claimed that Cochran had constructed the tunnel for the purpose of having a drain-pipe laid through it, but he could not explain why it had been enlarged and lined with a heavy supporting crib. The tunnel in its present condition shows that it was intended as a secret passageway from the old stone house. Those who inspected it believed that the dishonest keeper of the bullion vault had depended upon it to effect his escape in case of surprise while reducing the gold in the crucibles.

There were other secret panels in several closets, but no valuables were found behind them. From the contents of the various rooms it was evident that Cochran had bought goods at wholesale or else like a reckless spendthrift. In the house were found thirty-five soft hats of fine quality, similar to the one he wore at the hearing. More than twenty pairs of expensive boots and shoes were scattered around the closets and rooms, most of them never having been worn. Closets and chests were stuffed with suits of clothing and sufficient fine linen was found to stock a store. Fifteen gold rings set with diamonds and sapphires were found in little boxes in his sleeping-room. In a case on the wall were thirty-one razors, one for each day in the month. They were numbered and used in rotation and not even for a bar of gold would old Cochran use a 17th instant razor on the 16th. He had five dozen bath towels. Eighteen gingham umbrellas, each the size of a small circus tent, decorated the corners of every room. Cochran always had the umbrellas made to order. In his library the big desk had secret panels and slides, and eight ink wells stood on the top with four student lamps. A bookcase was found stocked with standard works in cheap bindings, and shelves in the corner were burdened with books of adventure and travel and lurid titles. There were also many juvenile works, but the most striking feature was the great display of Bibles in rich bindings, which stood near the hymnals and prayer-books. On the piano, in the parlor, the only books were of a religious nature.

Cochran was arraigned, bail was fixed at $17,500, in default of which he was taken to Moyamensing Prison.

Nearly all of the stolen gold has been recovered. Cochran is between sixty-five and seventy years of age, has been in the service of the Mint for nearly half a century. His natural character up to the decadence of life had been honest. It looks as if here is a change of character due rather to the cerebral degeneracy of senility than to vice. Vice was not natural to this man either through early acquisition or congenital endowment. He appears to have appreciated the nature, quality and risk of his stealings but not fully with the natural prudence and probity of character that appear to have belonged to him in his better days. We await more light. The old man may be an unmitigated thief, but this seems doubtful.

The Cosmopolitan.—Marion Crawford opens up a new line of thought in his article entitled "Rome, the Capital of a new Republic," appearing in the October *Cosmopolitan*. It is not likely that the October number will have the success which attended that for September. The extraordinary spectacle was presented of a 12½ cent magazine selling for 50 and 75 cents, and many hundreds were even sold at $1.00 each. After 211,000 copies had been sold, the News Company had orders for 50,000 more than they could supply. An edition for December, exceeding 300,000, will be issued.

Postscript to Paper on "Erotopathia."—*An Organization of Colored Erotopaths.*—Apropos of my paper on "Erotopathia," I am credibly informed that there is, in the city of Washington, D. C., an annual convocation of negro men called the drag dance, which is an orgie of lascivious debauchery beyond pen power of description. I am likewise informed that a similar organization was lately suppressed by the police of New York city.

In this sable performance of sexual perversion all of these men are lasciviously dressed in womanly attire, short sleeves, low-necked dresses and the usual ball-room decorations and ornaments of women, feathered and ribboned head-dresses, garters, frills, flowers, ruffles, etc., and deport themselves as women. Standing or seated on a pedestal, but accessible to all the rest, is the naked queen (a male),

whose phallic member, decorated with a ribbon, is subject to the gaze and osculations in turn, of all the members of this lecherous gang of sexual perverts and phallic fornicators.

Among those who annually assemble in this strange libidinous display are cooks, barbers, waiters and other employes of Washington families, some even higher in the social scale—some being employed as subordinates in the Government departments.

HOSPITAL NOTES.

New Resident Physician at Dixmont.—The *Pittsburg Medical Review* thus notes and very judiciously comments on a recent change in resident physician:

"The New Resident Physician at Dixmont a Lady.—The vacancy at Dixmont (Western Pennsylvania Hospital for the Insane) made by the resignation of Dr. George G. Graham has been filled by the selection of Dr. Elizabeth C. Mallison. Dr. Mallison graduated at the Woman's Medical College of Pennsylvania, in 1887. Before entering the medical college she served as head nurse in the Norristown Asylum, under Dr. Alice Bennet, and since her graduation, has had charge for three years of the Woman's Department of the Minnesota Hospital for the Insane, at St. Peter's, Minn. Dr. Mallison is well qualified by experience and training for the responsible position she now holds. The *Review* has been, and is, opposed to all legislation requiring the employment of female physicians in insane hospitals, holding that merit and capacity, rather than sex, should be the qualifying factors. The spontaneous selection of Dr. Mallison implies a compliment to that lady which would be wanting if the law demanded such a selection, and her position in Dixmont aptly illustrates the needlessness of any legislation on the subject of the employment of women physicians.

Government Hospital for Insane, Washington, D. C.—Number remaining June 30, 1892, males, 1,232; females, 365; total, 1,597. The report of the Board of Visitors to the Secretary of State shows steady progress in the working of the hospital. The necessity for additional accommodation is emphasized by the fact that 300 patients are nightly disposed in beds placed in corridors or dormitories crowded beyond their proper capacity. This, as the report justly says, is a dangerous condition of things, with a wrong done the insane, and a risk that the hospital authorities ought not to be required to take.

Among the appropriations asked is $75,000 for district pavilions for 150 epileptics. This is in the line of progress and ought to meet with a ready response.

An interesting feature of the report is the Pathological Supplement, which gives synopses of *post-mortem* examinations in seventy-three cases of mental diseases in females, with special reference to the condition of the organs of generation, and a condensed description of the tumors found in 546 autopsies in cases of mental disease in males. The Appendix is illustrated by cuts of camera lucida drawings of the pathological conditions present in some of the most interesting cases.

The brain was examined and weighed in 70 cases, and the average weight in the whole number was 38.3 oz., nearly 6 oz. less than the normal average. Gross organic disease of the brain was found in quite a number of cases, and the microscope revealed interesting changes in the majority; in many, however, the vascular changes and cell degenerations were only those incident to long-standing insanity and to old age in common.

In his summary, Dr. Blackburn, special pathologist, says: "It is somewhat surprising that so little serious disease was found in the organs of generation in so many women, the greater number of whom were from the lower walks of life. A great many of the conditions noted were unimportant, and though in some cases the lesions found may have, at some time, caused reflex mental symptoms, it must be concluded that in the majority the changes present at the autopsies had little to do with the mental disease."

The medical officers are: W. W. Godding, M. D., Superintendent; A. H. Whitmer, M. D.; M. J. Stack, M. D.; A. C. Patterson, M. D.; J. C. Simpson, M. D.; C. H. Latimer, M. D, and C. A. Drew, M. D., Assistant Physicians; J. W. Blackburn, M. D., Pathologist; J. A. Barry, M. D., Night Medical Supervisor.

Alabama Insane Hospital, Tuscaloosa (Biennial Report).—Population, Sept. 30, 1892: Males, 563; females, 585; total, 1,148. The inadequate provision for the care of the insane in the State occupies a considerable portion of the report, and tabular statements are given, showing the numbers in the jails, alms-houses and homes of friends. Many of the latter are in a pitiable condition of filth and squalor, which ought to appeal to the most dilatory legislator.

Absolute non-restraint continues to be the slogan of

the hospital. Two suicides and one homicide, the first since the opening of the institution, are reported.

Appended is a feeling and eloquent tribute to the memory of the late Dr. Peter Bryce, the first superintendent of the hospital.

For the last eighteen months of the period covered by the report systematic pathological work has been carried out, and synopses of forty-four consecutive autopsies are given, with special reference to the gross brain lesions and the pathological changes in the kidneys. In seventy per cent. of these cases the kidneys exhibited a departure from the normal standard. In this connection Dr. E. D. Bondurant, Acting-Superintendent and pathologist, says: "Albumin and casts have been detected in more than one-half of the 1,300 insane patients thus far subjected to examination, and we recognize some form of Bright's disease in at least one-half of the insane persons brought to us for treatment.

Dr. R. A. Wright, after careful physical examination of 702 patients, determined valvular heart lesions in 11.72 per cent.

Illinois Northern Hospital, Elgin (Twelfth Biennial Report).—Population, June 30, 1892: Male, 511; females, 499; total, 1,010. During the period covered by the report the new annex hospital has been opened and has given entire satisfaction. The associate dining-rooms are said to be in favor with both patients and employes, and to afford an additional means whereby the monotony of hospital life is relieved. Among the needs for the next two years are $82,000 for an infirmary building, and a new gymnasium and amusement hall, at a cost of $27,000.

Among the casualties reported are three suicides and one homicide. In the latter case the patient is supposed to have been unnecessarily provoked.

The medical staff is composed of Hy. J. Brookes, M. D., Superintendent; Wm. G. Stone, M. D.; Alken Young, M. D.; Walter S. Haven, M. D., and Walter R. Robinson, M. D., Assistant Physicians.

Eastern Indiana Hospital for the Insane, East Haven (Biennial Report).—Population, Oct. 31, 1892: Male, 215; female, 224; total, 439. Indiana comes into

line with an insane population in excess of the accommodation. In his report Dr. Smith calls attention to this state of things and urges the erection of new buildings or the founding of a new institution. The latter is very properly given the preference.

During the biennial period several changes have occurred among the medical officers. The staff as now constituted is: Samuel E. Smith, M. S., M. D., Superintendent; Samuel A. Giffard, M. D., and Lewis H. Gundry, M. D., Assistant Physicians.

Lunatic and Idiot Asylums of the Province of Ontario, Canada (Twenty-fifth Annual Report).—Population in all asylums, Sept. 30, 1892: Males, 2,042; females, 2,031; total, 4,073. Discharged recovered, males, 114; females, 98; total, 212; improved, males, 40; females, 35; total, 75; unimproved, males, 14; females, 18; total, 32; not insane, males, 1; females, 1; total, 2. Died, males, 138; females, 95; total, 233. Per cent. of recoveries on admissions, 26.76. Death rate on whole number under treatment, 5.44.

In this report the Inspector of Prisons and Public Charities calls attention to the tardy method of commitment in the case of pauper patients. In Ontario two methods are available. The first, to quote from the report, is designated the warrant method, by which information is laid before a duly qualified justice, and after investigation, if he is satisfied as to the insanity of the prisoner, he duly commits to the county gaol, and upon a further examination by a gaol surgeon and another legally qualified medical practitioner, if they certify as to the prisoner's insanity, and the County Judge also issues his certificate, the documents are then forwarded to the Department of the Provincial Secretary, when, if they are found to be in proper form and legally executed, they are then transferred to the Inspector of Asylums, who recommends the issue of a warrant for a transfer of the patient to an asylum.

This method is open to many objections. The time taken up by all this red tape formality, with possible delays resulting from informal documents, might be sufficient to allow of the death of the unfortunate patient by suicide or the exhaustion of acute excitement. Who would be willing to leave a case of delirious mania, for example, in a county gaol for even the eighteen days,

which have been found to be the average time within which the transfer has been effected after the cases were duly certified to? Then, again, detention in a common gaol cannot but have a prejudicial effect upon the mental condition of a patient who is unfortunate, not criminal. Such a method is not *en rapport* with the progressive spirit evinced by alienists in Ontario, and ought to be speedily abolished.

The second method provides for the certificate of two legally qualified practitioners when the patient may be admitted by the Superintendent if there is adequate accommodation. During the year, 547 were admitted to the various asylums by the latter and 350 by the former method.

Toronto Asylum.—Population, Sept. 30, 1892: Males, 340; females, 347; total, 687. Discharged recovered, males, 49; females, 50; total, 99; improved, males, 10; females, 8; total, 13; unimproved, males, 4; females, 9; total, 18; not insane, males, 1. Died, males, 42; females, 27; total, 69.

In his report Dr. Daniel Clark inveighs against promiscuous visiting by curiosity hunters, which is not permitted in this institution. The working of the asylum has been satisfactory, and during the year one patient was restrained for surgical reasons.

London Asylum.—Population, Sept. 30, 1892: Males, 468; females, 477; total, 945; admissions, males, 84; females, 58; total, 142; discharged recovered, males, 27; females, 16; total, 43; improved, males, 9; females, 3; total, 12; unimproved, males, 3; females, 2; total, 5. Died, males, 27; females, 16; total, 43. Per cent. of recovered and improved on admissions, 39.44. Death rate on whole number treated, 3.85.

During the year amusements and occupations have been carried on as in former years.

Hamilton Asylum.—Population on Sept. 30, 1892: Males, 432; females, 462; total, 894; admissions, males, 49; females, 54; total, 103; discharged recovered, males, 22; females, 23; total 45; improved, males, 11; females, 10; total, 21; unimproved, males, 5; females, 2; total, 7; died, males, 24; females, 14; total, 38. Per cent. recovered and improved on admissions, 42.29. Death rate on whole number treated, 3.64.

During the year a pathological laboratory has been established and considerable progress made in this department.

Kingston Asylum.—Population, Sept. 30, 1892: Males, 280; females, 251; total, 531; admissions, males, 49; females, 54; total, 103; discharged recovered, males, 15; females, 9; total, 24; improved, males, 9; females, 11; total, 20; unimproved, males, 2; females 5; total, 7; not insane, male, 1. Died, males, 17; females, 9; total, 26.

Among the improvements asked for are a ward for convalescents and a gymnasium. Much is done in this institution in the way of physical culture and athletic exercises. Through the kindness of the Medical Superintendent, Dr. C. K. Clarke, the writer while on a visit to the asylum, had an opportunity of witnessing the evolutions as performed by the patients, and was much impressed by the evident interest and pleasure taken by all in the exercises. The annual athletic games are a calendar event with both patients and employes. Clean tongues, sweet breaths, and the absence of swollen feet and stagnant circulations attest the physical value of the system. While this department in the treatment of the insane shows yearly increasing development, the enthusiasm of Dr. Clarke for all manly sports lends to it a peculiar charm which in his institution effectually conceals the powder in the jam.

J. E. M.

Dr. Richard Dewey, late Superintendent and Physician of the Hospital for the Insane at Kankakee, has removed to Chicago. He may be found at Room 1114 Venetian Building, 34 Washington St. Hours, 9 to 1.

Illinois Insane Commitment Law.—The State has always been disgraced by this law. Unlike States more jealous of personal liberty, Illinois has had the insane tried by what is practically the mediæval, brutal "crowner's 'quest" law. A the last legislature a signal step was taken in advance, thanks to Dr. A. B. Strong, of the Illinois Medical Society, and Dr. Harriet C. B. Alexander, who represented the Woman's Club. Hysterical and paranoiac female influence, hitherto the chief stumbling-block in the way of amendment of the law, was conquered by her. The new law, while admitting to the full—as any law must—the constitutional right to a jury, allows the court to appoint a commission of two qualified physicians, on whose report it is to act. In cases of self-recognized insanity the patient can be self-committed by written

application to the superintendent of any insane hospital, but has the right to leave the hospital at any time on giving three days' notice to the superintendent. No patient can be placed in restraint or seclusion except by order of the physician and a record must be kept of all such orders for public inspection. The clauses giving increased powers of supervision to the State Board of Charities would be of much value were it not for the destruction of the efficiency of the board, partly by its recent reconstruction and partly by the miserly appropriation made for it. As things are at present, its auxiliary committees, created by the present statute, will simply serve as screens for the "boodling" "business men" who control county boards.—*Medical Standard.*

REVIEWS, BOOK NOTICES, ETC.

CHILDREN'S RIGHTS: Valedictory Address to the Graduating Class of Marion-Sims Medical College, by Prof. I. N. Love, Professor of Clinical Medicine and Children's Diseases in the Faculty, is a charming *brochure*, displaying the author's characteristic thoughtfulness for the little ones, his goodness of heart, his wit and his well-known optimistic philosophy of life.

In this address there are words of wisdom which are "apples of gold in pictures of silver," for the contemplation of the young men for whom it was intended. It will do them good like a medicine. There is much of the *litterateur* displayed in this production. It is, too, a psychical heart tonic.

The author's estimate of his own proper relation to the young is fittingly expressed in the introduction which prefaces the reprint before us, as follows:

"To my Boys, Ewing and Hodgen. The first early crossed over the dark river, and now plays under the shade of the trees, but the memory of his dancing eyes and ringing laugh ever brings gladness and music to my soul.

"The second, so long as it falls to me to dwell in this bright and happy, yet weary and workaday world, may he continue to be as he is now, my joy and my pride, a never-ending source of comfort, and may we both always realize that which he often expresses in his childish, prattling way: 'I'm papa's partner and papa's my chum.'

"This little *brochure* is affectionately inscribed by the Author."

The tenor of the author's teaching may be largely gleaned from these concluding sentences:

"Let us know to the fullest that 'When he is forsaken, withered and shaken, there is nought an old doctor can do but die.' But we need not be 'forsaken, withered and shaken,' if we pursue the right course. By mingling with the young in our profession, by cultivating a love for children, nature, a sympathy for the suffering, we will keep our hearts young, and as we cross over upon the shady side of life's mountain, though the bright and beaming sun be behind us, the nearer we approach the dark valley, the more joyous will be our thoughts, for we will ever be cheered by memories of the past, by singing birds and babbling brooks, by being completely in touch with the young and the gladsome, the good, the true, the beautiful and the jolly.

"Though there may be aches, pains, disappointments, sadness and clouds, we will have a balm for every pain,—something to compensate us for every disappointment, a comfort in others' gladness for our sad-

ness, and beyond the darkness and the clouds, another sun will be shining, and that will be ours together with a realization of that which is expressed in one of the sweetest words in all our vocabulary—Rest."

A New Illustrated Dictionary of Medicine, Biology and Collateral Sciences.—Dr. Geo. M. Gould, already well known as the editor of *The Medical News*, of Philadelphia, and two small Medical Dictionaries, has now about ready this unabridged, exhaustive work, which he and a corps of able assistants have been uninterruptedly engaged upon for several years.

Its chief features will be the large number of fine illustrations, drawn and engraved especially for the work, and the unique epitomization of old and new knowledge. It will contain more words than any other one-volume medical lexicon, richness in tabular matter, completeness of etymology and pronunciation, and the latest method of spelling. Moderate price. P. Blakiston, Son & Co., Philadelphia, are the publishers.

Mark Twain's Latest—Romance of an Esquimau Maiden.—The *Cosmopolitan* presents for November five unusual attractions William Dean Howells gives the first of the letters of the traveler, who has been visiting this country, from Altruria, with some comments on our Government and society, calculated to awaken the most conservative minds. A portion of the magazine is given up to color illustrations presented for the first time in magazine history, accompanying an article by Mrs. Roger A. Pryor, on "Changes in Women's Costumes." "American Notes," by Walter Besant, who was recently in America and is doing the United States for the *Cosmopolitan* a la Dickens. General Badeau gives "The Forms of Invitation Used by the English Nobility." "The Esquimau Maiden's Romance," by Mark Twain, is a curious story in his happiest vein and is illustrated by Dan Beard. The artistic work of this number is superb.

General Index from the Twenty-fifth to the Thirty-eighth Volume (inclusive) of the *Journal of Mental Science*, by Henry Rayner, M. D. J. & A. Churchill, 11 New Burlington street, London, publishers.

A Case of Sub-cortical Cyst of the Lower Part of the Left Ascending Parietal Convolution; Operation; Recovery. By Theodore Diller, M. D., and J. J. Buchanan, M. D.

Sarcoma of the Pia and Brain, Simulating Brain Tumor; Mono-Spasm and Mono-Paresis; Operation. Death on the Third Day. By J. T. Eskridge, M. D.

Drug Treatment and Management of First, Second and Third Stages of Drink Habit Disease and of Causative Constitutional Error. By John G. Reed, M. D.

Varicocele, with a Report of Nineteen Radical Operations, and the Different Ways in which They Were Done. By B. Merrill Ricketts, M. D.

The Simple Dressing After Cataract Extraction. By T. E. Murrell, M. D., Prof. of Ophthalmology, Barnes Medical College, St. Louis, Mo.

Some Points in the Diagnosis and Treatment of Intra-Cerebral Hemorrhage and in the Treatment of Chorea. By J. T. Eskridge, M. D.

Some Further Experience in the Dilatation of the Fallopian Tube for the Treatment of Abscess. By Walter B. Dorsett, of St. Louis, Mo.

Surgical Clinic, held at Rush Medical College, March 28, 1893, at the Meeting of the Alumni of the College. By Nicholas Senn, M. D., Ph. D.

The Epileptic Interval; Its Phenomena and Their Importance as a Guide to Treatment. By William Browning, Ph. B., M. D.

The Meaning and the Method of Life. By George M. Gould, A. M., M. D. Reviewed by Josiah Royce, Harvard University.

Hydrogen Peroxide in Contagious Diseases. Cholera, Yellow Fever, Typhus, Typhoid Fever. By Cyrus Edson, M. D.

Sexual Crimes Among the Southern Negroes. By Hunter McGuire, M. D., LL. D., and G. Frank Lydston, M. D.

De la Dynamométrie Chez les Aliénés. Par le Docteur Edouard Toulouse, Médicin-adjoint de l'asile Saint-Yon.

Suturing the Tendo Achillis in the Correction of Deformities of the Feet. By H. Augustus Wilson, M. D.

Sur un Cas D'Acromégalie Chez une Enfant de 14 Mois Compliqué de Microcéphalie. Par le Dr. Moncorvo.

The Profession of Medicine as Sketched from the Outside and from the Inside. By S. W. Kelley, M. D.

The Successfnl Treatment of Typhoid Fever. A Reply to Dr. Page. By Charles Milton Buchanan, M. D.

Twenty-seven Years Addiction to Opium.—Recovery.—Relapse. By J. B. Mattison, M. D.

Syringomyelia; Its Pathology and Clinical Features. By M. Allen Starr, M. D., Ph. D.

The Pernicious Influence of Albinism Upon the Eye. By George M. Gould, A. M., M. D.

The Duty of the Community to Medical Science. By George M. Gould, A. M., M. D.

Some Casual Observations in European Hospitals. By Elsworth S. Smith, A. M., M. D.

A New and Safe Method of Cutting Œsophageal Strictures. By Robert Abbe, M. D.

Trional, the New Hypnotic. Its Use in Narcotic Habitués. By J. B. Mattison, M. D.

The Technique and Management of Pelvic Surgical Cases. By A. V. L. Brokaw, M. D.

The Ætiology and Therapeutics of Alcoholic Inebriety. By Lewis D. Mason, M. D.

Therapeutics of Degenerative Diseases of the Spinal Cord. By Curran Pope, M. D.

Ueber Sykosis und Folliculitis. Von Doc. Dr. S. Ehrmann in Wein.

Some Successful Results in the Treatment of Epilepsy. By David Inglis, M. D.

A Temporary Change in the Axis of Astigmatism. By George M. Gould, M. D.

Heredity; Its Relationship to Mental Disorders. By Dr. Alex. L. Hodgdon.

Faux Rétrégissements de L'Urèthre. Par le Dr. Reliquet et A. Guépin.

The Spelling of Some Medical Words. By George M. Gould, A. M., M. D.

Dietetic Treatment of Typhoid Fever. By James M. French, A. M., M. D.

Cholera; Its Prevention and Treatment. By Elmer Lee, A. M., M. D.

Peritonitis From a Surgical Stand-point. By A. V. L. Brokaw, M. D.

A Unique Case of Traumatic Neurosis. By R. Harvey Reed, M. D.

Unilateral Hypertrophy of the Face. By D. W. Montgomery, M. D.

Cases of Hysteria Treated by Hypnotism. By S. G. Webber, M. D.

The Surgery of Gall-stone Obstruction. By Robert Abbe, M. D.

The Mattison Method in Morphinism. By J. B. Mattison, M. D.

The Cerebellar Cortex of the Dog. By Henry J. Berkley, M. D.

The Ætiology of Narcotic Inebriety. By J. B. Mattison, M. D.

The Mental Symptoms of Fatigue. By Edward Cowles, M. D.

Hæmatomyelia and Acute Myelitis. By Joseph Collins, M. D.

Experiences in Pelvic Surgery. By A. V. L. Brokaw, M. D.

Pneumonia Among the Insane. By Eliot Gorton, M. D.

Eczema Infantile. By B. Merrill Ricketts, M. D.

The Medical Press. By George M. Gould, M. D.

Cocaine Poisoning. By J. B. Mattison, M. D.

Cocaine Inebriety. By J. B. Mattison, M. D.

Clinical Lecture. By Samuel Wolfe, M. D.

Insomnia. By Curran Pope, M. D.